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**MONEY, CREDIT
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ECONOMICS AND SOCIAL INSTITUTIONS

Volume IV

MONEY
CREDIT
AND
FINANCE

by

GEORGE FRANCIS LUTHRINGER

*Alternate United States Executive Director,
International Monetary Fund*

LESTER VERNON CHANDLER

Department of Economics, Amherst College

DENZEL CECIL CLINE

Department of Economics, Michigan State College

REVISED EDITION

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PREFACE

THE six-book series of which this is the fourth volume is designed to meet the requirements of an introductory course in economics. The evolution of economic organization from the simple forms of early times to the more complex patterns of modern economic society is traced in the first volume of the series. The second volume contains a presentation of methods of economic analysis based on the important contributions to economic theory that have been made during recent years. In the remaining four volumes, which constitute a survey of major current problems of the economic system, emphasis is placed not merely on the description of problems but also on the analysis of economic and social processes.

Problems relating to the financial aspects of economic society are analyzed in Volume IV, *Money, Credit, and Finance*. To accomplish this purpose within a book of reasonable size, it has been necessary for the authors to abbreviate the description of some types of financial institutions and to omit entirely the description of others. Nevertheless, with its portrayal and analysis of the fundamental types of financial institutions the book should afford the student an understanding of the functioning of the money and credit system, not only

as it is used by private enterprise but also in its relation to the public economy.

Developments in recent years have made it increasingly apparent that the use of credit by private enterprise and by government affects both the structure and operation of the economic system. In modern countries the government is the largest financial enterprise, performing functions vitally important to the economic and social well-being of its citizens. The manner in which revenue and credit are obtained and used by the government significantly affects the operation of private enterprise and the distribution of the national income among individuals. Government finance is an integral part of the national economy.

Likewise, the close relationship between the problems of monetary control and of public finance has been emphatically demonstrated by the swift march of events in the present century. Methods used by present-day governments to finance public expenditures, whether by taxation or by the use of credit, profoundly influence the operation of the monetary system. The widespread development of central banking throughout the world and the extension of public management of monetary systems, especially since the First World War, have altered basically the setting in which the problems of money, credit, and public finance present themselves.

Writing of a world that eschews reliance on the "automatic" adjustments of "free" markets and that, instead, is experimenting hopefully with various methods of positive control, the authors have considered the behavior of money and credit under managed

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standards as well as under the automatic gold standard. Similarly, the banking system, through which the major portion of the money supply is obtained, is studied in relation both to commercial enterprise and to governmental activities.

JAMES G. SMITH
Editor

Princeton, N.J.
October 1937

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PART ONE

ECONOMIC SIGNIFICANCE OF MONEY

C H A P T E R I

Functions and Significance of Money

To the mythical "man in the street", the word "money" connotes a miscellaneous assortment of coins and paper bills. He knows that money enters into almost every aspect of his life, and that there hardly ever seems to be enough of it for his daily needs. The worker of to-day is paid in money with which he must purchase a variety of goods and services that are essential to his existence. The activities of the business man are to a large extent based on contracts expressed in terms of money, and his fundamental purpose is to reap a money profit by securing money receipts in excess of money costs. To the individual, money appears to be the main-spring of economic motivation — the primary objective of economic activity.

As was shown in earlier volumes of this series, the whole modern economic system revolves around the trading process; individuals specialize in the produc-

tion of one product or of only a minute part of a product and exchange it for money with which to buy the goods that they consume. A large part of the tremendous increase in per capita productivity in the modern era must be attributed to the growth of specialization and exchange. Money has undoubtedly contributed to this increase in productivity by facilitating the process of exchange, without which specialization could not have reached its present development. Nevertheless, poorly functioning monetary systems sometimes prevent production from reaching its maximum and lead to capricious and often undesirable shifts in the distribution of wealth and income.

NATURE AND FUNCTIONS OF MONEY

BARTER

The nature and functions of money can best be appreciated by contrasting a community that uses money with one that relies on barter to effect exchanges. *Barter* is the direct exchange of goods for goods without the use of money; for example, the exchange of furs for salt, or of a knife for cloth. It is generally agreed that primitive trade took place in this manner. Much of this early trade was highly informal and amounted to little more than the exchange of gifts. For example, in *silent trade* one tribe would deposit some of its goods in a customary place and depart. A neighboring tribe would then come and take possession of these goods and leave some of its own goods in

exchange. As cynics have remarked, this type of trade is not dissimilar to the modern giving of Christmas gifts, in which the giver definitely expects a gift in return. However, as the institution of private property developed, and as the number and variety of economic goods increased, sporadic and casual trading relationships such as silent trade were superseded by more regular and direct types of barter.

Although the use of money is nearly universal at the present time, barter still survives in the less advanced parts of the world and in certain rural communities even in our own country. Thus, farmers sometimes barter produce for "store goods" at a country store. In the southern United States, the advance of supplies to share croppers by local storekeepers in exchange for part of the cotton crop is also essentially barter. Moreover, in periods of acute economic distress, such as a depression, or of grave monetary disorder such as extreme inflation, barter is sometimes resorted to on a large scale. In the depression of 1930-1933 the monetary supply of many communities was largely destroyed by the failure of banks, and as a result barter again became common. Many communities established barter exchanges where the unemployed, farmers, and professional men of the community could exchange goods and services with one another. Most of these modern examples of barter are really pseudo barter, however, for it is common to express the relative values of the things exchanged in terms of money even though money is not used as a medium of exchange.

Difficulties of Barter. Although barter was the means

by which most trade was carried on in the early history of mankind, and though it survives to some extent even today, it is nevertheless a very cumbersome and awkward process as compared to the exchange of goods for money. There are three essential shortcomings in the barter process. The first is that barter necessarily involves a *double coincidence* of wants. Thus, if an individual wishes to trade a horse for a boat, he must find a person who not only has a boat to trade but who is also willing to take a horse in exchange for it. A second difficulty arises when commodities are not *divisible* and are very unequal in value. Thus if A should have only a horse to trade and should want some shoes that were owned by B, some cloth owned by C, and a dog owned by D, it would be exceedingly difficult for him to carry on trade by barter. The third serious defect of barter is that there is no *common measure of value* for the great variety of goods used by the community. Each commodity has as many prices as there are goods for which it can be exchanged. Consequently, it is impossible to ascertain the relative values of goods by comparing their market prices as expressed in terms of a common unit of value. Indeed, under barter conditions there can be no real market price in the modern sense of a single price at a moment for a given kind and grade of goods.

Money serves its purpose by overcoming these defects of barter.

DEFINITION OF MONEY

Money is best defined in functional terms; that is, in terms of those specific functions that differentiate

it from all other economic objects. In this book the term "money" will be used to denote *those things that are commonly accepted in payment for goods and in discharge of debt contracts, and that are expressed as multiples or fractions of some unit that is regarded as the common denominator or measure of value of things in general.*¹ The content and implications of this definition can best be developed by a detailed analysis of the functions of money.

CLASSIFICATION OF FUNCTIONS OF MONEY

Money facilitates the exchange of goods and services by acting as:

- (1) A medium of payments
- (2) A common denominator or measure of value
- (3) A standard of deferred payments
- (4) A store of value

The first two functions are the fundamental, or primary, functions of money. The third and fourth functions of money are secondary in the sense that they are derived from and closely dependent upon the first two.

MONEY AS A MEDIUM OF PAYMENTS

The sale of goods for money must be distinguished from the direct exchange of goods by barter. In the

¹ This definition closely parallels that developed by Robertson, D. H., in *Money* (1929), pages 2-4.

case of barter, each trader receives for his goods *another commodity* whose primary purpose is to be consumed, or used for the satisfaction of wants. Its primary purpose is not to be passed on as a medium of payments, despite the fact that it may later be bartered for something else. When a seller exchanges his goods for money, however, he relinquishes goods and receives in return something that he does not desire for its own sake, and that he does not intend to consume, but that is taken only to be exchanged sooner or later for goods and services. The distinguishing characteristic of money, then, is that it fulfills its chief purpose only as it is passed from hand to hand in the trading process.

General Acceptability of Money. To perform this function, money must have general acceptability. A seller of useful goods or services is willing to receive payment in money because he knows that it can be passed on to others in exchange for any type of desired commodity or service. Because only money possesses this quality of general acceptability, it alone constitutes "generalized purchasing power" and can eliminate the difficulties of barter.

Money eliminates the difficulty of the double coincidence of wants encountered under barter. Under a money economy, a person owning a horse that he wishes to exchange for a boat need not search for someone who both has a boat and desires a horse, nor need he go through a whole series of barter transactions to acquire some commodity that will be acceptable to the boat owner. He merely sells the horse for money and

then exchanges the money for a boat. Money also overcomes the difficulty of the lack of divisibility of valuable objects. If the horse owner wishes to trade the horse for shoes, cloth, and a dog, he need not worry about the lack of divisibility of the horse; he can sell the horse for money and spend some of the money for each article. How money overcomes yet another difficulty of barter, the lack of a common measure of value, will be considered in the next section.

MONEY AS A COMMON DENOMINATOR OR MEASURE OF VALUE

The function of money as a common denominator of value is well described in the following analogy:²

Just as fractions of different denominators can only be added together if they are first reduced to a common denominator, so it is only possible to express the aggregate values of a total of different kinds of goods when these goods are reduced to a common denominator of value. The value of different goods can then be estimated in terms of the same unit of value. . . . To judge the amount of a person's wealth one would, in the absence of a uniform expression of value, such as money provides, have to enumerate at length all his various possessions, and in addition specify the size, nature, etc., of each separate object which he owned.

Under a money economy, the values of all goods are expressed as "prices", that is, in terms of the number of units of money required to buy them. When this is

² Helfferich, Karl, *Money* (1927), Vol. I, p. 324.

done, it is a simple matter to keep accounts, to add the values of goods expressed in terms of money, and to ascertain the relative worths of goods by comparing their prices.³

The Unit of Account. In the latter part of the definition of money, it was stated that money is expressed in multiples or fractions of some unit that is regarded as the common denominator or measure of value of things in general. The unit in which prices are quoted is sometimes referred to as the *unit of account* or *money of account*. Examples of units of account are the dollar in the United States, the pound sterling in England, the franc in France, and the mark in Germany. In this country we do not think of quoting prices or of keeping accounts in federal reserve notes, silver coins, silver certificates, or demand deposits, although these are all part of our media of payments. These things, however, are all expressed as units, multiples, or fractions of the dollar, the same unit in which prices are quoted. Clearly then, it is this thing called a dollar that is our measure of value. It is the measuring rod with which we reckon the value of a numberless array of commodities and services. The unit of account is simply the *name* or *title* of the measuring rod.

Standard Money. Money that is the physical embodiment of the unit of account, and to which the value of

³ It has sometimes happened that one kind of money has been used as a medium of payments and another as a common denominator of value. Thus in Germany during the period of hyperinflation, dollars and Swiss francs were often used as a common denominator of value, although depreciated paper marks were used as a medium of exchange. Commodities such as rye, coal, and kilowatts of electrical energy were also used as common denominators of value or standards of deferred payments.

all other types of money is adjusted, is called *standard money*.⁴ Historically, standard money has usually consisted of a defined weight of some precious metal, such as gold or silver. The values of all other types of money are ordinarily kept on a par with that of standard money by providing for free convertibility of each into the other.

The Gold Dollar as Standard Money. For example, before the monetary changes that accompanied the depression of the early 1930's, most of the important countries of the world were on the gold standard. One of the essential features of the gold standard was the definition by law of the unit of account as a fixed weight of gold. Thus, in the United States, the standard dollar was at that time defined as a monetary unit containing 25.8 grains of gold .900 fine, or 23.22 grains of pure gold. Gold coins, however, were of minor importance as a medium of payments; this function was performed largely by the demand deposits of commercial banks, federal reserve notes, national bank notes, and various kinds of government paper money and silver coins. All these types of money were kept at an exact parity with gold dollars, for either by law or by administrative practice they were freely convertible into gold at the United States Treasury and the federal reserve banks.

Relation of the Unit of Account to Standard Money. Although most of the important countries of the world were on the gold standard from the latter part of the last century until the outbreak of the First World

⁴ Cf. Kemmerer, E. W., *Money* (1935), p. 13.

War, and again from the latter part of the decade of the 1920's until the 1930-1933 depression, historically speaking this represents a brief span of time. During the course of history the units of account of the various nations of the world have undergone important changes both as to the quantity and as to the kind of precious metal in which they were defined. The unit of account, however, has been changed far less frequently than the standard money in which it is embodied.

The relationship of the measure of value to money, or to the things that act as a medium of payments, may perhaps be clarified by analogy.⁵ In this country there has been for nearly a century and a half a President of the United States. This office has been filled by a succession of different men of varying physical appearance and mental capacity. Now "President of the United States" bears the same relationship to *the* President, whoever he may be, say Mr. Roosevelt, as the unit of account bears to the standard money at any particular time. Just as we have had the office of President filled by a succession of different men, our unit of account, the dollar, has been embodied in a series of different standard moneys.

The dollar was originally defined as 371.25 grains of silver *or* 24.75 grains of gold, and later as 371.25 grains of silver *or* 23.22 grains of gold; in both cases a legal bimetallic standard was thereby established. Later the dollar was defined only as 23.22 grains of gold, and the United States was placed legally on the gold standard.

⁵ Cf. Keynes, J. M., *A Treatise on Money* (1930), Vol. I, pp. 3-4.

At the present time the dollar is defined as 13.71 grains of gold. Moreover, during certain periods, the most notable of which was during and after the Civil War, the standard money was simply inconvertible paper money.

An even more striking example is afforded by the pound sterling in England. The pound was originally, as the name implies, a pound of silver. Its fine silver content was gradually reduced from 4995 grains of silver to 1719 grains. For a time England was on a bimetallic standard with the pound defined as 1719 grains of silver or 113 grains of gold. Later, although the name was unchanged, the pound was defined simply as 113 grains of gold. At times the pound was a "paper pound", or inconvertible paper money, as for example, from 1797 to 1821, from the outbreak of the World War in 1914 until 1925, and after September 1931.

In both England and the United States it has been the unit of account that has given continuity to the monetary system. In spite of the various changes in the standard money, prices continued to be quoted and accounts to be kept in pounds and in dollars, respectively. Once people become thoroughly accustomed to the use of money, they make valuations in terms of *units of money*. The fact that a unit of money may be composed of or represent a fixed weight of one kind of metal or another rarely enters into the conscious calculations of individuals unless they happen to be engaged in foreign trade or foreign-exchange operations.

Fluctuations in the Value of Money. To fulfill its function satisfactorily, a unit of measurement must itself be constant. Trade would be very confused if ounces, yards, and gallons were forever fluctuating in size. Yet the monetary unit, which acts as a measure or unit of value, has never remained constant in value. Monetary units have been defined as fixed amounts of gold, or of silver, or of both, and they have sometimes consisted merely of inconvertible paper; yet in all cases their values in terms of purchasing power, or their ability to buy goods in general, have fluctuated. The reasons for these fluctuations will be explained later. Here it is necessary only to note that money can never fulfill its functions in a completely satisfactory manner until its value, or purchasing power, is stabilized.

MONEY AS A STANDARD OF DEFERRED PAYMENTS

The function of money as a standard of deferred payments is derived from the use of money both as a medium of payments and as a common denominator of value. Deferred payments are payments that are postponed from the present to a future date. These may arise out of two general types of transactions. Sellers frequently sell goods or services "on credit", that is, in exchange for promises to pay later. And lenders part with present goods or money in exchange for promises of future repayment. In both cases "debts" necessitating deferred payment are created. In our modern credit economy billions of dollars of these debts are outstanding at all times.

Advantages of a Standard of Deferred Payments.

These debts might, of course, be stated in terms of specific commodities, but the advantages of expressing them in terms of money are decisive. In the first place, the market price of a specific commodity may fluctuate widely and rapidly. The purchasing power of money also fluctuates, but in all except abnormal periods, such as periods of extreme inflation, changes in the purchasing power of money are likely to be less sudden and drastic than changes in the prices of specific commodities. This is one of the reasons why both creditors and debtors usually prefer to have debts stated in terms of money. In the second place, disagreements as to quality might arise if debts were expressed in terms of commodities, especially if they were expressed in terms of complex commodities, such as automobiles or typewriters.

In the third place, and most important, lending is greatly facilitated by making loans in terms of money, just as trade is facilitated by the use of a medium of payments which eliminates the barter difficulty of lack of *double coincidence*. If loans were made and repaid in specific commodities, it might frequently happen that borrowers would not wish the specific goods that others might be willing to lend, and that lenders would not wish to receive in deferred payments the specific goods that borrowers might offer. It is clearly a great advantage to both lenders and borrowers to have loans made and debt contracts paid in money instead of in specific commodities that would have to be either used directly or bartered for other commodities. More-

over, the use of money enables people to save and invest, even though their primary economic activity may not be the production or holding of stocks or commodities. It is not surprising, therefore, that historically the size and extent of credit transactions have increased with the increased use of money. Just as it is difficult to think of an exchange economy based on barter, it is difficult to conceive of a society that uses credit as extensively as our own expressing its debt contracts in terms of specific commodities.

Legal Tender. The kinds of money that by law *must* be accepted by creditors at par or nominal value in discharge of debt contracts expressed in terms of money are called *legal tender* money. This does not mean that a debtor is freed from his contractual obligation if a creditor refuses to receive the legal tender money that the debtor offers him; it means simply that if the debtor offers legal tender money he cannot be compelled by the creditor to pay in any other kind of money, and that he cannot be held liable for interest or court fees after the date on which the offer of legal tender money was made.

The kinds of money that are not legal tender are called *optional money*; that is, creditors may accept them or not as they choose. In the past, countries that were on a metallic standard frequently limited the privilege of legal tender to full-weight standard coins, that is, standard money. It is also customary to make subsidiary coins legal tender in limited amounts. Ordinarily, however, it is a matter of indifference to creditors whether they are paid in legal tender or op-

tional money, providing that the optional money is maintained at a parity with the standard money.

The State and Legal Tender Money. It is the prerogative of the government to declare what shall be legal tender money and what shall be only optional money. In this country before 1933, several different types of money were legal tender for all debts expressed merely in terms of dollars. A great volume of outstanding debts, however, contained the "gold clause"; they were made payable specifically in "gold dollars of the present weight and fineness or their equivalent." Creditors could legally refuse to accept legal tender money in satisfaction of these debts if the legal tender money offered was not on a par with gold. In 1933, Congress made important changes in this situation. It made illegal the possession and use of gold coin. It declared "gold clauses" in existing debt contracts to be void and prohibited their inclusion in new contracts. And it gave to all types of money in this country, except demand deposits (checking accounts), full legal tender powers for the satisfaction of all debts expressed in terms of dollars, even if payment in gold was formerly stipulated.

Effects of Changes in the Value of the Standard of Deferred Payments. Because it fluctuates in purchasing power, money has fulfilled its function as a standard of deferred payments in a far from satisfactory manner. When the purchasing power of money falls (that is, when prices rise) between the time that a debt is incurred and the time that it matures, the debtor is enabled to repay dollars less valuable than those that

he borrowed; the debtor gains at the expense of the creditor. When the purchasing power of money rises (that is, when prices fall) the debtor is forced to repay dollars more valuable than those he borrowed; the creditor gains at the expense of the debtor.

Arbitrary shifts of wealth in this manner have often been very serious, even when the dollar remained at a fixed value in gold. For example, the purchasing power of the dollar declined by one third from 1896 to 1913, during which time we were on the gold standard. Hence a creditor who had loaned \$1000 in 1896 and who was repaid \$1000 in 1913 received only \$667 in terms of the purchasing power of money in the earlier year. Conversely, creditors may also receive fortuitous gains at the expense of the debtor. During the period from 1922 to 1932 the purchasing power of the dollar increased by one half. Consequently a creditor who had loaned \$1000 in 1922 and who was fortunate enough to be repaid \$1000 in 1932 received \$1500 in terms of the purchasing power of the dollar at the time the loan was made. This gain, of course, was at the expense of the debtor who borrowed when prices were high and repaid when prices were much lower. It is for this reason that there were such vehement protests from farmers with mortgaged farms during the depression.

MONEY AS A STORE OF VALUE

This function of money is not as important as the three functions just discussed, but it is of considerable significance. Since money is a medium of payments and constitutes purchasing power over goods in gen-

eral, it can be disposed of much more easily than such things as jewels, real estate, or securities. Consequently, it is very convenient to use money as a store of value, or as a "hoard", for use at some future time. Classic examples of hoarding are the accumulation of stores of money, chiefly coin, by the peasants of France, and the hoarding of coins by both the wealthy and poor in Oriental countries such as India.

Hoarded money has one serious disadvantage as a store of value: it does not yield any interest to its holders. For this reason, people in modern economic communities ordinarily prefer to hold a very large part of their wealth in the form of income-yielding assets, such as stocks, bonds, deposits in savings banks, and physical property. In periods of prosperity, therefore, money is not widely used as a store of value. But during the 1930-1933 depression there was a tremendous recrudescence of hoarding. Indeed, almost every serious decline of business activity and prices is accompanied by some additional hoarding. As people anticipate declines in the prices of goods and securities, there is a general move to sell these things and to hold money, which increases in value as prices fall. When banks are distrusted, people withdraw their deposits by demanding that the banks convert them into cash, and they hoard the cash thus received. This may lead to serious bank failures, since the cash reserves of banks are much smaller than the volume of bank deposits. If there is no lack of confidence in banks, however, hoarding is done chiefly by accumulating large unutilized bank balances. The withdrawal of money from its normal use as a

medium of payments to use it as a store of value tends to force prices still lower by reducing greatly the amount of money offered in exchange for goods. The erratic occurrence of hoarding of this type is a serious factor in economic instability.

It is not always easy to draw a distinction between the use of money as a medium of payments and its use as a store of value. Except in the case of hoarding by misers who pathologically accumulate money for its own sake, most hoarded money is sooner or later used to buy goods. But, in order to use money as a medium of payments, most individuals and business enterprises find it necessary to hold a certain amount of "cash on hand" and bank deposits to draw on in making payments as the need arises. These holdings of money represent the use of money as a store of value, but money is continuously being shifted from these holdings into use as a medium of payments. Money so held is therefore primarily being used as a means of payments, while its use as a store of value is secondary and incidental. Hoarding arises when money is held for long periods without being spent.

When there is a general tendency to use money as a store of value rather than as a medium of payments, which is likely to occur in periods of business recession and depression, the number of times that each dollar of money is used to buy goods or services in a given length of time is decreased. A smaller volume of money is offered for goods, and the general level of commodity prices falls. When there is a general tendency to dishoard money — to use it as a medium

of payments rather than as a store of value — each dollar is used oftener to purchase goods, a greater volume of money is offered for goods, and a general rise of commodity prices occurs. Such a development is most likely to occur in periods of business prosperity and when further price rises are expected, for people wish to get rid of money before it declines in purchasing power.

MONEY AND THE CAPITALISTIC SYSTEM

The functions of money and the economic significance of money have already been discussed, but the importance of money in the modern capitalistic economy can be better appreciated when one understands the ways in which it benefits the different economic groups. Therefore, this section will describe the principal services that money performs for the consumer, the enterpriser, the wage earner, and the capitalist.

MONEY AND THE CONSUMER

The receipt of income in the form of money, which is a fund of generalized purchasing power, enables the consumer to exercise freedom of choice in making purchases. He may use his income to acquire those things that best fit his individual needs and desires, and the capitalistic system functions in such a way that those things that are demanded most are produced and offered for sale. If, for example, consumers

demand more shoes, the increase in demand is evidenced by their willingness to pay more money for shoes. The resulting rise in the price of shoes relative to the prices of other commodities, from which demand has been diverted, tends to produce relatively high money profits in the manufacture of shoes. These high profits induce enterprisers to employ additional labor and other productive resources in the production of shoes until the profits in the shoe industry have been reduced to the level prevailing in other industries. Thus under capitalism money and prices are the mechanism through which production is adjusted in accordance with consumers' choices.

MONEY AND THE ENTERPRISER

In adjusting production to demand, producers must make careful calculations of money costs of production and of the probable future money prices of the things that are to be produced. To do this, carefully managed industries must rely on elaborate systems of cost accounting that would be impossible without a common denominator of value such as money. Moreover, money as a medium of payments is used in paying employees, creditors, and those who supply raw materials; and money for these purposes is received when the products of the enterprise are sold.

The fact that business enterprisers can buy and sell for money makes it possible for some of them to specialize in the complicated tasks of organizing and managing industries, while others concentrate on distributing to consumers the kinds and quantities of

goods demanded. Without this system of money payments, it would be impossible for large-scale production, with its numerous and complex products, to be carried on under a system of free private enterprise. If the enterpriser could not use money payments, he would have to make payments in goods or in "kind" to employees, creditors, and those who supplied raw materials.

MONEY AND THE WAGE EARNER

Even if the enterpriser succeeded in devising some method of making payments to the agents of production in "kind", there is every reason to believe that employees, who are usually inferior to enterprisers in bargaining power, would be dissatisfied. Not only would their freedom of choice as to kinds and qualities of goods be restricted to those that the company store might provide, but there would be constant disputes as to just what and how much of different consumers' goods constituted a fair wage. This would be all the more true because there would be no one market price in terms of money for each good, so that employees would never know whether or not they were being paid less than laborers in other enterprises.

That unscrupulous employers would exploit employees in such a system is indicated by the long and bitter struggle of organized labor against the "truck" system in the nineteenth century. This was a system in which workers were forced to receive part of their wages in goods furnished by company stores at prices set by the company. The advantages of money wages

to the laborer are well summarized in the following statement:⁶

Carlyle declaimed against a modern civilization whose only bond of union is the cash nexus. Yet, from a different point of view, it may be said that liberty depends on cash. Indeed, the transition from slavery to freedom is a transition from payment in lodging, board, and goods, or "truck", to payment in legal tender or in a medium convertible into money on demand at its face value. Cash means freedom. It permits the wage earner to buy what and where he wants. It also means earnings, for it exposes and corrects unwarranted deductions, such as high prices, through book-keeping accounts.

The "truck" system has proved to be so subject to grave abuses that it is now strictly regulated or else abolished altogether by law.

MONEY AND THE CAPITALIST

Before concluding the discussion of money in the capitalistic system, something should be said of the relation of money to the capitalist, who gives our economic system its name. The economic system is called capitalistic because of the dominant role played in it by capital, and because it is the capitalist and capitalistic management that organize and control business, and determine business policies. The motivating force is the earning of a money return on the capital invested in business enterprises. In the modern economic system production is characteristically carried on by large

⁶ Commons, J. R. and Andrews, J. B., *Principles of Labor Legislation* (Harper & Brothers, revised 1936), page 332.

enterprises which use a vast amount of machinery and other producers' goods. Moreover, production is a long and time-consuming process during which wages and other costs must be paid long before the final products are sold. Therefore, large amounts of capital funds are needed, both to purchase producers' goods and to finance the productive process.

Money and Saving. In order to build up and to maintain the equipment used in industry, and in order to support those individuals engaged in the production of durable goods used in industry, a large amount of saving is required. Some people must cut down on their consumption of consumers' goods in order that labor and other productive resources may be diverted to the production of industrial equipment. In a money economy this is done for the most part by individuals who reduce the proportion of their money incomes that they spend for consumption purposes and who invest or transfer the purchasing power thus saved to those who will use it to finance production. For this service, capitalists receive either money interest or money profits.

It would be impossible to work such a system as this on a barter basis. Without some easily transferable medium of generalized purchasing power such as money, financial institutions could not serve as specialized intermediaries for collecting the savings of millions of individuals and of transferring them to hundreds of thousands of business enterprises in need of capital.

Moreover, the characteristic form of business enterprise today is the corporation, which collects vast sums

of capital funds through the sale of stocks, bonds, and other securities, to thousands of separate investors. It is impossible to conceive of any feasible alternative to the use of money to make payments of interest and dividends to these thousands of widely scattered investors, some of whom own but one bond or a few shares of stock. It is just as impossible to think of assembling huge aggregations of capital funds from small individual contributions on any kind of barter basis. Clearly, therefore, money is essential in an economic system in which the means of production are privately owned and in which industry is characterized by highly specialized large-scale enterprises using vast amounts of capital.

C H A P T E R I I

Kinds of Money

THE discussion so far has dealt largely with the functions of money. This chapter will deal with the physical nature and objective characteristics of money. The origin and evolution of money will be discussed briefly, the kinds of money will be distinguished and classified, and the media of payments in the United States at the present time will be described.

ORIGIN AND EVOLUTION OF MONEY

EARLY FORMS OF MONEY

Origin of Money. Although authorities disagree as to the exact way in which money originated, they agree on one fact: Money was not the invention of some great man of history but, like most complex human institutions, was the product of a long and slow evolutionary process. Certain social scientists contend that money evolved from some widely demanded and fre-

quently traded commodity which was easy to exchange for other goods; that is, which was "highly barterable." They hold, for example, that cattle were more widely demanded and more frequently exchanged than any other commodity. Cattle were, therefore, the most "highly barterable" or most widely acceptable of all commodities, and they finally became *generally* acceptable as a medium of payments. Others believe that money arose from the use of some common article as a measure of value. They maintain that cattle were a form of property that was almost universally possessed and were, therefore, used as a measure of value of all other types of wealth. The use of cattle as a medium of exchange grew out of their use as a measure of value.

But whether money evolved from some widely demanded and frequently exchanged commodity or from some commodity used as a measure of value, the earliest forms of money were *commodities*.

Consumable Commodities Used as Money. An amazing number and variety of commodities have been used for money at different times and places. In some instances consumable commodities were used, such as salt, corn, rice, dried fish, tobacco, cattle, cloth, hides, and furs. The use of such commodities as media of exchange has certain disadvantages. When the community uses a specialized medium of payments, it must keep a stock on hand for this purpose. This forces the withdrawal of commodities from their commodity use to serve in the money use. As in many cases these commodities were common necessities, the community

must often have been faced with the alternative of either doing without money or restricting its consumption of some necessity. Moreover, some of these commodities were bulky and difficult to store and transport, or deteriorated rapidly in storage or in use.

Durable Goods Used as Money. Consequently it is not surprising that many communities developed the use of more durable goods as money. The durable goods used for this purpose were sometimes tools or weapons such as knives, fishhooks, and nails, and sometimes objects of ornament, such as shells and beads. These durable goods had several advantages over consumable goods as media of payments: they could be shifted from the money use to their other uses and back again with a minimum of loss; they were for the most part easy to store and transport; and the objects of ornament could satisfy the esthetic desires and the love of conspicuous display so deeply rooted in human nature and could circulate as money at the same time.

Use of Metals as Money. Instead of using durable goods such as weapons, tools, and ornaments, some primitive communities used for a medium of payments the unworked metals with which they were familiar. The metals used as money at one time or another have comprised gold, silver, copper, tin, lead, and iron. The use of metals in unworked form as money has several advantages over the use of metals in the form of fabricated products. To begin with, metals in unworked form are to a high degree uniform in quality and can be easily subdivided. Secondly, unworked metal can

be converted into weapons, tools, or ornaments, without the loss of labor involved in converting a metal from one of these forms to another. It is easy to understand, therefore, why many communities used metals circulated by weight and in the form of bars, rings, or lumps, in preference to fabricated products.

Early Forms of Token Money. Many communities passed through an interesting transitional stage in which, having long been accustomed to use some durable good such as knives or fishhooks for money, they began to use miniature tokens or replicas of these goods. In China the metal heads of hoes were once used as money, but gradually these became miniature hoes which had no use save as money. Similarly, the fishing communities along the shores of the Indian ocean originally used fishhooks as money. Eventually, however, the medium of payments developed into a simple piece of double wire which even the most imaginative could scarcely picture as a fishhook.

Perhaps the most striking instance of all is the familiar Chinese cash, which is a round copper coin with a square hole in the middle. This is simply a highly conventionalized knife. In very early times, copper or bronze knives were widely used as money in China. These knives had a ring on the end of the hilt so that a number of them could be strung together for ease of transportation. During a long period of years they were gradually reduced in size; first the blade was omitted, and then the hilt, until all that was left was a replica of the original ring. In all of these in-

stances the trend of development was away from using as money something that could be directly used as a tool, to a form of medium that had only a monetary use. These transitional forms of money also illustrate the manner in which a unit of account gives continuity to a monetary system. That is, the knife, hoe, or fishhook was the value unit even though it no longer served as a medium of payments, this function being performed by conventionalized replicas of the original unit of account.

USE OF PRECIOUS METALS AS MONEY

As has been mentioned, metals circulating in bars or lumps were often used as money in primitive communities. Prominent among these metals were gold and silver, which appear to have been among the earliest metals known to mankind. With the passing of centuries these two precious metals have almost completely displaced other metals as a money material except for copper and, in more modern times, nickel, which are still widely used for subsidiary and minor coins.

COINAGE

The precious metals long served as money before the device of coinage was invented. There is evidence of the use of gold bullion as money in China as early as 2000 B.C. Gold and silver are known to have circulated by weight as money in ancient Babylonia, Assyria, Greece, and Egypt. It is generally agreed that coinage originated in Lydia in the seventh century before

Christ, many centuries after the precious metals were first used as money. In many cases the customary weight of gold in primitive coins was the amount supposed to represent the value of an ox, or a cow, the original unit of account.

Coinage was an important development, for it greatly facilitated the circulation of the precious metals as a medium of payments. When gold or silver circulates by weight, individuals must weigh each lump or bar, and test it to determine the amount of alloy that it contains. When the state, which is generally the agency for minting coins, stamps its seal upon pieces of metal and certifies them as to weight and fineness, the metal can be circulated simply by counting units of money. Coinage, however, is more than a convenient device for avoiding inconveniences of weighing and assaying. It marked the first step in the separation of the thing that is called money from the precious metals. When a community reached the stage of using only *coined* metal as money, the metal in bullion form ceased to serve as money, and became merely a commodity. The metal in bullion form might be used as a store of value or for industrial purposes, but it was money only when it was made into coins. Moreover, it was not long before coins, which in many cases were given the name of a primitive unit of weight, such as shekel, talent, pound, and livre, lost their primary meaning as units of weight, and became units of account; that is, in everyday life people made valuations in terms of sums of coins or money units rather than consciously in weights of precious metal.

PAPER MONEY

The next step in the separation of money from its commodity status was the use of paper money. Although there are a few instances of the use of leather money in ancient times, and of the use of paper money in China and other Asiatic countries in the thirteenth and fourteenth centuries A.D., generally speaking paper money did not become important until modern times when the institutional devices of money and credit had reached an advanced stage of development. A large element of credit, in the sense of reliance on the good faith of others, enters into the use of any kind of money. Even in the use of coined money individuals trust the state to mint coins of a uniform weight and fine metal content. But the element of credit enters to an extreme degree into the use of paper money, which has a commodity value that is negligible in comparison with its money value. Such money could hardly be acceptable to a people that regards commodity value as a *sine qua non* of general acceptability.

Historically, paper money has usually, though not always, represented a promise by the issuing authority to pay on demand in legal tender coin or its bullion equivalent. Thus paper money is essentially a circulating promissory note of the issuing authority, which is almost invariably either the state or a banking institution. So long as this promise of convertibility is kept, and it can be kept only if the paper money is limited in quantity, the paper money is maintained at

a parity with standard money or its bullion equivalent.

Although convertibility has been an important device in securing the general acceptability of paper money, it is by no means essential after the use of paper money has become customary. There have been many instances in which a country from either necessity or choice, usually the former, has abandoned a metallic standard without destroying the general acceptability of its paper money as a medium of payments. In such cases people have become so accustomed to the use of paper money while it was convertible that the abandonment of convertibility has had scarcely any effect upon the willingness of individuals to receive it for purposes of internal trade. In other words, the value of money as *money*, or as a medium of payments, was sufficient to secure its acceptability in spite of its lack of any significant commodity value. So essential is money in modern economic life that a people will continue to use a rapidly depreciating money as a medium of payments until it becomes literally worthless. This is illustrated by the inflationary experiences of many countries during and following both the First and Second World Wars.

The State and Paper Money. The state has available two important devices for enhancing the acceptability of paper money, whether it is convertible or inconvertible. Once debts become important in economic life, the state has a powerful lever for forcing paper money into circulation; this lever is the authority to make paper money legal tender for the discharge of both its own and private debts. Creditors are then con-

fronted with the necessity of receiving either paper money or no money at all, and they naturally elect to do the former. Paper money is also more acceptable if the state agrees to receive it at par value for the taxes and other payments owed it by its citizens. But these devices cannot prevent paper money from depreciating if it is issued to excess; and, if a paper money becomes excessively depreciated, people may be driven to avoid losses by refusing to extend new credits repayable in a fixed sum of money.

Paper money will often circulate when it is neither legal tender nor accepted at par by the state for taxes or other payments. Thus, in our early history there were thousands of different kinds of bank notes that did not enjoy either of these privileges, and whose convertibility into specie (coin) was at best uncertain and often entirely lacking. In spite of this, these notes were widely accepted in trade, although they usually circulated at a varying discount relative to both government money and one another, and were the cause of serious inconvenience and loss.

Advantages of Paper Money. Although paper money has the grave disadvantage of being highly susceptible to overissue, since its quantity is not limited by the scarcity of the material from which it is made, it nevertheless has important advantages. Its chief advantage is that it serves as a cheap substitute for much more costly gold or silver coins. Huge amounts of coin and bullion are very expensive. They can be acquired only by devoting a part of the country's limited productive power to gold or silver mining or by producing

goods to be sent abroad to purchase them. In either case, they are obtained only at a real cost to the nation. This cost can be avoided by the use of an inexpensive paper money. In addition to its advantage of cheapness, paper money is very easy to store and transport and is particularly convenient in making large payments.

DEMAND DEPOSITS AS MONEY

The use of the demand deposit (or checking accounts) of commercial banks as money represents the last stage in the separation of money from any valuable money material. In this country, demand deposits serve as a medium of payments in about ninety per cent of all business transactions.

Nature of Demand Deposits. Demand deposits are merely promises of the bank to pay the depositor legal tender money on demand. In normal circumstances, however, only a comparatively small amount of total demand deposits are converted into cash; instead, they remain on the books of the banking system as amounts due individual depositors. It is this that enables them to be used as a medium of payments. Individuals transfer these deposits from one to another by drawing checks on them when they wish a means of payment. Checks are not money; they are merely the device by which deposits are circulated from individual to individual. It is therefore the demand deposits themselves that must be considered as money. The process by which bank deposits are created, and the mechanism that enables them to serve as money, will be discussed more fully at a later point.

Since demand deposits are merely promises of the bank to pay legal tender money on demand, they are very similar to bank notes; both are types of bank debt, and both serve as means of payment. There is, however, one important distinction between them: bank notes, or any of the numerous kinds of money issued by the government, will be received with equanimity by a merchant from either a judge or a gangster. These kinds of money are generally acceptable regardless of the character or credit of the person offering them; but this is not true of the checks drawn by an unknown individual on a bank. Before a merchant will accept the check of someone personally unknown to him he must be convinced that the check is good; that is, he must feel sure that the person offering the check has demand deposits in a solvent bank sufficient to cover the amount of the check. Thus the credit standing of the individual drawer of a check enters into the use of demand deposits as a medium of payments in a way that is lacking when he offers other kinds of money.

Advantages of Demand Deposits. Despite the disadvantage just noted, the net advantages of using demand deposits subject to check are so great that in most western countries the volume of this type of money exceeds that of all other types of money combined. The use of checks drawn on demand deposits eliminates the necessity for storing or carrying cash which may either be stolen or destroyed. Moreover, the use of checks facilitates payments in large transactions that would otherwise involve counting and handling a large number of bills and coins of varying denominations.

Checks may also be sent through the mails at nominal cost and without risk of loss to either sender or recipient in case of theft or accidental destruction. This greatly facilitates making payments to distant points. Another advantage is that checks automatically serve as receipts for money paid, for the person who receives them must endorse them on the back when he presents them to a bank to be cashed or deposited to his credit. In addition to these many advantages from the standpoint of convenience, demand deposits, like paper money, serve as a cheap substitute for the more costly medium of payments, coined money.

CLASSIFICATION OF MONEY

As has become apparent in the course of the preceding discussion, money is a complex device that assumes many different forms. A tabular classification may, therefore, contribute to a better understanding of the various kinds of money. The types of money that have been mentioned, together with some additional types that have yet to be described, may be classified as follows:

- I. Full-bodied money
- II. Representative full-bodied money
- III. Credit Money
 - A. Government
 - 1. Token coins
 - 2. Representative token money
 - 3. Circulating promissory notes

B. Bank

1. Circulating promissory notes
2. Demand deposits subject to check

All the kinds of money except demand deposits are *cash* or *currency*. No attempt is made in the classification to designate those kinds of money that are legal tender and those kinds that are optional money, since all of the various kinds except demand deposits have, at one time or another, been legal tender, either in unlimited amounts, or sometimes, as in the case of token coins, in limited amounts. At the present time in the United States, all money except demand deposits has full legal tender powers.

For a similar reason no attempt is made in the table to differentiate between standard money and non-standard money. Before the First World War, full-bodied coins were the customary standard money, but token coins and inconvertible paper money have also on occasion served in this capacity.

FULL-BODIED MONEY

Full-bodied money consists of coins containing metal that has value as a commodity equivalent to the money value of the coins. Such money usually arises when a country is on a gold, or silver, or bimetallic standard and practices either *free* or *gratuitous* coinage.

Free and Gratuitous Coinage. When the government stands ready to coin all bullion presented to it without limitation as to amount, and without any charges except for the actual expenses of manufacturing bullion into coins, coinage is said to be *free*. If it does not even charge

for the expenses of manufacturing coin, coinage is said to be *gratuitous*. In the United States coinage has usually been both free and gratuitous, though an almost negligible charge has sometimes been made to cover the cost of any copper alloy added to increase the wearing quality of the coins.

Equivalence of Money Value and Bullion Value. The expenses of coinage are so small that *if coinage is free, even though it may not be gratuitous, there cannot be any significant difference between the value of full-bodied coins as money and the value of their bullion content as a commodity.* If the gold contained in full-bodied coins became worth more as a commodity than the coins were worth as money, people would melt coins and sell them as bullion. This would reduce the supply of money and increase the amount of gold available for use as a commodity; the money value (or purchasing power) of gold coins would rise and the value of gold as a commodity would fall until the value of gold in monetary and in commodity uses was equalized. Conversely, if gold became worth more as money than as a commodity, more of it would be taken to the mint and less would be available for commodity uses; the value of gold as money would decline and the value of gold as a commodity would rise until the two values were again equalized. This is but one application of the general rule that, under conditions of pure competition, a standard or homogeneous good can have only one price in a given market at a given time, even if that good can be used for many purposes.

When the government provides for the free coinage of full-bodied coins, it establishes a fixed mint price for the precious metal that serves as a standard. In the United States the mint price of pure gold prior to March 1933 was \$20.67 per ounce; that is, since the troy ounce contained 480 grains, and since the dollar contained 23.22 grains of fine gold, each ounce of gold could be coined into 20.67 (or $480/23.22$) dollars. Although gold was freely bought and sold in the market as bullion, the market price could never vary significantly from the fixed mint price. No one would sell gold for appreciably less than he could get at the mint if he were willing to wait a few days for his money; and no one could sell his gold for appreciably more than the mint price, for gold buyers always had the option of melting down full-bodied coins in order to get gold.

At the present time, the mint price of gold is \$35 per ounce, and the market price must hover close to this level.

REPRESENTATIVE FULL-BODIED MONEY

Representative full-bodied money, a form of paper money, is a warehouse receipt for full-bodied coins or their bullion equivalent deposited with the Treasury. Prior to March of 1933, an individual could deposit gold coin or bullion with the Treasury, and receive in return gold certificates of an equivalent amount. The gold thus deposited by individuals was really owned by the holders of the certificates rather than by the government, which was merely acting as a warehouseman.

Gold certificates represented an equivalent amount of gold and were essentially a device for permitting gold to be used as a means of payment while at the same time obtaining some of the conveniences of paper money. These certificates, as well as gold coins, were withdrawn from circulation in 1933 and can now be held only by the federal reserve banks.

CREDIT MONEY

Credit money is any kind of money, other than representative full-bodied money, that has a money value greater than the market value of the material of which it is composed. For any kind of money to circulate at a money value in excess of the commodity value of the material composing it, its supply must be kept below the amount that would be issued if the government permitted the free conversion of the money material into money, as it does in the case of full-bodied money. If paper producers were allowed to convert paper into paper money whenever they wished, they would do so as long as the value of paper as money was above the value of paper as a commodity. As a result, such a large amount of this money would be issued that its money value would soon be depressed to the level of its commodity value. After the First World War one country in Central Europe printed paper money so freely that a brewery found it cheaper to paste government notes of one crown denomination on its bottles of "Crown Beer" than to have its regular labels printed.

Token Coins. Token coins are credit money because they have a money value substantially greater than the

commodity value of the metal that they contain. Since the supply of token coins must be restricted in order for this condition to exist, this type of money is coined only at such times and in such amounts as the government deems desirable. Coinage is *limited*, not *free*. The profit accruing to the government from the issue of token coins is called a *seigniorage* profit. This is derived from the word "seignior", or lord, and is a heritage of the feudal times when lords had a monopoly of coinage and could impose charges for converting bullion into coins.

In modern times, the government not only limits strictly the amount of token coins; in addition, it usually maintains free convertibility between them and standard money. This is necessary not only to prevent depreciation of token coins relative to standard money, but also to prevent their appreciation relative to standard money. There have been cases in which a shortage of token coins in the small denominations used for hand-to-hand "change" has led to a slight premium on token coins in terms of standard money, so great was the demand of the community for currency of this type. On the other hand, if the community had an excess of token coins, and wished to dispose of them for standard money, they would undoubtedly go to a discount if the government did not drain off the excess through allowing their conversion into standard money. Token money can neither depreciate nor appreciate in relation to standard money so long as the government stands ready to give standard money for token money or token money for standard money at par or face value.

Token coins may be issued in units or multiples of the unit of account, or in fractions of the unit of account. Examples of the former are the silver dollar in the United States, and the two-franc bronze token coins of France. In certain periods of our history, when we were on a bimetallic standard, the silver dollar was full-bodied standard money. But, at times, since the United States adopted the gold standard and discontinued the free coinage of silver, the market value of the silver in the silver dollar has been as little as twenty-one cents. In spite of this, the money value of the silver dollar is equal to that of a gold dollar, both because the amount of silver dollars is limited and because silver dollars are freely convertible into gold.

For the most part, token coins in circulation are in denominations of fractions of the unit of account, such as half-dollars, quarters, dimes, nickels, and pennies. Although fractional coins in the past were often full bodied, this was found to be both inconvenient and unnecessarily expensive. If the commodity value of the coins temporarily exceeded their money value, they would be melted down or exported, thereby reducing the supply of hand-to-hand change below that needed by the public. This was particularly likely to happen when a country was on an inconvertible paper standard and issued paper money in excessive amounts. Moreover, token fractional money is more economical than full-bodied fractional money, for it requires less money metal:

Representative Token Money. Representative token money consists of warehouse receipts for token coins

deposited with the government. They are therefore similar to certificates representing full-bodied money. The only difference is that in one case the coins represented are token and in the other case full bodied. This difference, however, makes it logical to class the certificates representing token money as credit money. The token coins against which certificates are issued are usually in denominations of the unit of account. Certificates are rarely issued against fractional token coins.

In the United States silver certificates are issued against the deposit of silver dollars by individuals or against purchases of silver by the government. In the latter case, the silver bullion is not always coined. Since there are few silver dollars in circulation, the volume of silver certificates depends primarily on the amount of silver purchased by the Treasury on its own account. At the present time, most of our one-dollar bills are silver certificates convertible into silver dollars on demand. Since both silver certificates and the silver dollars they represent are limited in quantity, and are convertible on demand into other kinds of money, they circulate at par, or their face value.

Circulating Promissory Notes Issued by the Government. As has been pointed out, promissory notes issued by the government to be circulated as money are usually promises to pay on demand full-bodied coin or its bullion equivalent. When this promise is kept, the notes are said to be convertible; when it is not, as has sometimes been the case from the outset, the notes are said to be inconvertible. In either case, the notes are credit

money. Convertible notes differ from representative full-bodied money in that no 100 per cent reserve, with a commodity value equal to the money value of the notes, is held against them. Though a coin or bullion reserve is customarily held, it is usually well below 100 per cent.

Since the cost of the money material in paper money is so small, the government makes an even greater seigniorage profit in the issue of paper money than in the issue of most kinds of token coins. But the necessity for restricting the issue of notes to an amount that will circulate at parity with standard money serves as an external or objective check on the amount of convertible notes that the government may issue, and hence limits the seigniorage profits that may be derived from this source. If the government issued convertible notes in excess, their money value would fall below the value of the precious metal in standard coins or bullion into which the notes were convertible. This would cause people to ask for conversion of notes into standard coins or bullion, so that, unless the government retired from circulation the notes paid in for this purpose, it would find the reserves against convertible notes being rapidly drained away. Therefore, it would be forced either to discontinue paying more notes into circulation, or else repudiate its promise and make them inconvertible when its metallic reserves were finally exhausted.

It is for this reason that governments often resort to the issue of inconvertible notes in order to raise money for the expenses of a war; inconvertible notes

can be issued in almost unlimited amount, whereas the amount of convertible notes that can be issued is strictly limited by the necessity for converting them into coin or bullion. It is this potentiality of almost unlimited issue without an automatic objective check that makes inconvertible notes so subject to abuse. If, however, the government exercises the proper restraint and skill, the quantity of inconvertible notes may be controlled in such a manner as to secure a high degree of stability of value.

The only kinds of circulating promissory notes issued by the Government of the United States and now outstanding are the United States notes, or "greenbacks" of Civil War fame, and an almost negligible amount of Treasury notes of 1890. The former were originally inconvertible notes, but since 1879 they have been convertible into gold, except for the short periods when the gold standard was suspended during the World War and the depression of the early 1930's. Since 1878 the amount of greenbacks has been limited by law to \$347,000,000. Treasury notes of 1890 were originally convertible on demand into either gold or silver at the option of the Secretary of the Treasury. None of these notes was issued after 1893, at which time there were \$156,000,000 outstanding. Since then they have all been retired from circulation except for \$1,000,000 which are listed by the Treasury as still being in circulation, although it is believed that most of this amount is represented by notes that have been lost or destroyed.

Credit Money Issued by Banks. The essential characteristics of bank notes, or the circulating promissory

notes issued by banks, and of demand deposits, have already been mentioned, and will be discussed in detail in subsequent chapters. It is sufficient for the present purpose to point out that, in most countries, the notes issued by central banking institutions are of much greater importance than the circulating notes issued directly by the government. This is explained in part by a desire to prevent the overissue of notes. It was believed that the overissue of notes to obtain revenue was such a temptation to the government that the function of note issue had best be confined to a central bank, which might be less influenced by political considerations.

Although there may be some truth in this argument, particularly in times of peace, the control exercised over central banks by their respective governments has usually been so close that in wartime the central bank is compelled to issue notes and lend them to the government. When this is done, the government usually suspends its requirement that the central bank maintain the convertibility of its notes into full-bodied money or bullion. Aside from this, however, there are advantages in making the central bank, which in a modern community exercises a considerable degree of control over the supply of money, responsible for regulating the supply of circulating notes.

The notes of commercial banks are comparatively unimportant in most countries at the present time. The only commercial bank notes in the United States, the national bank notes, are now being rapidly retired. When this process is completed, the only out-

standing bank notes of any sort will be federal reserve notes, which make up a large part of our cash, or currency. Their volume is much less, however, than that of demand deposits subject to check, the credit money created by the commercial banking system.

AMOUNT OF THE VARIOUS KINDS OF MONEY IN CIRCULATION IN THE UNITED STATES

The following table shows the amounts of the various kinds of money in circulation in the United States. "Money in circulation" means money outside the Treasury and the federal reserve banks.

KINDS OF MONEY IN CIRCULATION IN THE UNITED STATES AT THE END OF APRIL 1946

(In Millions of Dollars)

REPRESENTATIVE FULL-BODIED MONEY -- GOLD CERTIFICATES	51
GOVERNMENT CREDIT MONEY	
Token coins { silver dollars	138
{ subsidiary silver	830
{ minor coin	312
Representative token money -- silver certificates	1,978
Circulating promissory notes { United States notes	303
{ Treasury notes of 1890	1
BANK MONEY	
Circulating promissory notes { Federal reserve notes	23,685
{ Federal reserve bank notes	473
{ National bank notes	115
Demand deposits subject to check -- Demand deposits (adjusted)	77,400
TOTAL MONEY	105,286

* Probably destroyed, or in private hoards; can no longer be used for hand-to-hand circulation.

PART TWO

CREDIT AND BANKING

C H A P T E R I I I

Credit and Credit Instruments

THE modern economic system is frequently called a *credit economy*. This designation ignores other important characteristics of the system, but it does focus attention upon one essential element without which the economy could not function as it does today. Without credit, business enterprises could not have attained their present size, production would probably be carried on with less capital equipment, the monetary system—which now depends so greatly on credit—would function quite differently, and buying “on credit” would be impossible.

It is the purpose of this chapter to describe the nature of credit, the types of credit, and credit instruments.

THE NATURE OF CREDIT

Credit may be defined as the transfer of purchasing power or of valuable goods or services in the present in exchange for a promise of repayment in the future. This promise to repay in the future is called a "debt." Therefore, every credit obviously involves an equivalent debt. Likewise, every credit (or debt) transaction involves a creditor and a debtor. The creditor surrenders present goods or purchasing power to the debtor, and the debtor promises to repay in the future.

This relationship between credit and debt is frequently not understood. In popular opinion, credit is usually held to be beneficial, and increases in its quantity are ordinarily viewed with favor, whereas the existence of a "burden of debt" is believed to be injurious in its effects on the economic system. Since credit and debt are inseparable, at least one of these beliefs must be false. It remains true, however, that it is easy to make promises but always burdensome, and sometimes impossible, to keep them.

The Basis of Credit. A creditor will surrender present goods or purchasing power in exchange for a debt only if he has faith or trust that the debt will be paid. He must first be assured of the debtor's capacity to pay. For this purpose he must ascertain the magnitude of the debtor's assets and liabilities and the net income that the debtor will receive before the debt becomes

payable. But assurance that the debtor is *able* to pay is not enough; the creditor must also have faith that the debt will actually be paid. In some cases the debtor is required to pledge specific assets, such as land, buildings, machinery, or corporation securities, as security for the debt. Such debt is said to be *secured*. In other cases the debt is *unsecured*; it represents only a general claim upon all the debtor's income and assets not pledged for the satisfaction of other obligations. If the debtor refuses to pay, the creditor may apply to the courts for enforcement of the debt contract, unless the debtor is a sovereign government. Usually, however, credit will not be granted if the creditor lacks faith that payment will be made voluntarily, for the inconvenience and expense involved in litigation are too great.

Importance of a Standard of Deferred Payments. The importance of money as a standard of deferred payments has already been stressed.¹ Debts might be expressed in terms of commodities, such as bushels of potatoes or tons of steel, but such an arrangement would have serious disadvantages. Virtually all debts are now expressed in terms of a unit of account — in this country in terms of dollars — and in most cases they are paid in money. This is true whether the debt arises out of a purchase of goods on credit or out of a straight loan transaction. As will be seen later, the almost universal practice of expressing debts in terms of money is one of the reasons why the purchasing power of money should be kept relatively stable.

¹ See above, pp. 14-18.

CLASSIFICATION OF CREDIT (OR DEBT)

Credit (or debt) can be classified in a number of ways, each of which helps to clarify its nature and its uses.

Public and Private Credit. One classification is based upon the type of debtor. *Public credit* is that granted to government units of any kind. This type of credit has been used for centuries, but in the last fifty years it has grown by leaps and bounds as wars and preparations for war have become increasingly more expensive and as government units have been called upon to assume more and more functions. *Private credit* is that granted to any debtor other than a government unit. It includes, therefore, all credit granted for any purpose to private individuals, partnerships, and corporations.

Consumptive and Productive Credit. Credit may also be classified according to the purpose for which it is used. *Consumptive credit* is that used by the debtor to acquire goods or services for consumption. The college student who purchases a suit of clothes and induces the tailor to "charge it", the secretary who pays for a trip to Europe on the installment plan, and the motorist who borrows money with which to buy a pleasure car are all using consumptive credit. This type of credit does not necessarily enable one to increase the total real income that he receives during his life-

time. But if used judiciously, it may increase the total satisfactions that he derives from his income, for he is enabled to acquire goods at a time when their consumption yields a high degree of satisfaction and to pay the debt when his needs or desires are less urgent. If used thoughtlessly, however, consumptive credit may have the opposite effect.

Productive credit is that used to further the production, distribution, or sale of goods or services. The farmer who borrows funds to buy farm land, the railway corporation that borrows to purchase a new locomotive, and the retail merchant who buys inventory on credit or with borrowed funds are all users of productive credit. The quantity of this type of credit outstanding is many times as great as that of consumptive credit.

Long-Term, Intermediate-Term, and Short-Term Credit. A third classification of credit is on the basis of the time elapsing between the date on which the debt is incurred and the date on which it falls due. Credit (or debt) that runs for five years or more before repayment is *long term*, that running from one to five years is *intermediate term*, and that maturing within a year is *short term*.

Frequently, if not usually, the life or term of a debt is closely related to the length of time required for the liquidation of the project financed by the borrowed funds, that is, the length of time required for the project to put into the hands of the debtor sufficient funds to retire the debt. Thus, an enterpriser might incur long-term debt to buy land, buildings and highly

durable machinery that will yield sufficient funds to repay their cost only after the passage of a long period. He might resort to intermediate-term credit to purchase equipment that would yield its return in from one to five years. And he might secure short-term credit to purchase raw materials that would be "turned over" within a year.

There are, however, many exceptions to these generalizations. If interest rates on long-term credit are high in relation to interest rates on shorter term credit, or if long-term rates are expected to decline later, an enterpriser may purchase highly durable goods by giving a debt that will mature long before the durable goods have yielded funds sufficient to pay off the debt. The expected advantage is a saving in interest costs; the danger is that a new credit may not be available when the original one expires, or that it will be available only at a high rate of interest.

On the other hand, long-term credit is often used, especially by large corporations, to finance transactions which are completed in a year, or even a shorter period. For example, a corporation operating a retail store whose inventory turns over rapidly but is never allowed to fall below \$5,000,000 might issue that amount of long-term debt to purchase inventory and resort to short-term credit only when a larger inventory was desired. This type of practice—the use of long-term credit to finance transactions completed in a short time—is one of the reasons for the marked decline during the post-war period in the volume of short-term credit outstanding. It is especially likely to occur

when interest rates on long-term credit are below the short-term interest rates that are expected to prevail.

CREDIT INSTRUMENTS

Credit instruments, which are legal documents evidencing the existence and terms of a credit transaction, fall into two general classes; they are either *promises to pay* or *orders to pay*.

PROMISSORY NOTES

Credit instruments taking the form of promises to pay are called *promissory notes*. By far the greater part of all credit outstanding in this country is evidenced by this type of instrument. An illustration of a simple promissory note is given below.

\$ 1000.00	Princeton, N.J.	November 20, 1936.
Three	months after date. I, we, or either of us, promise to	
pay to the order of John J. Jones		
One Thousand &		00/100 Dollars
DATE 95	at PRINCETON BANK AND TRUST COMPANY	
INT 15.83	OF PRINCETON.	
PRG 984.17	Value received.	
DUE Feb. 23	John D. Doe	

SPECIMEN PROMISSORY NOTE

The essential elements of this note are that John D. Doe (the debtor) for value received promises to pay to John J. Jones (the creditor), or to his order, a stated

sum of money (\$1000) at a stipulated place and at a stipulated time.

Promissory notes may be issued for any desired length of time. They may be payable only at the end of a long period — some have been issued for periods exceeding a hundred years — or they may mature within a very short time. *Bonds* are merely long-term promissory notes issued by corporations or government units.

Commercial Paper. Short-term promissory notes issued to finance the production, distribution, or sale of goods or services are called commercial paper. There are two types of commercial paper. The first is open-market commercial paper. This type is issued by large and well-known business enterprises and sold in the “open market” to any person or institution wishing this type of investment. Its use can best be explained by an example.

Suppose that a large mail-order company, such as Montgomery Ward and Company, desires to borrow \$5,000,000 to purchase inventory which will be turned over within six months. To sell its promissory notes the company will seek to enlist the services of a commercial-paper house, which acts as a middleman in the sale of these instruments. If the commercial-paper house finds that the credit standing of the company is satisfactory, it will instruct the company to prepare \$5,000,000 worth of notes in convenient denominations of \$10,000 to \$100,000 each. These notes will then be sold to investors for their face value minus interest for the period the notes have to run, and the proceeds

will be turned over to the mail-order company. When the notes mature, the company will have sold its merchandise and will repay the notes at their face value.

Banks, especially, buy this paper because it is short-term, relatively safe, highly salable, and may be used as a basis for borrowing at the federal reserve banks.

The second type of commercial paper is customers' commercial paper. This type arises out of loans from banks to their own customers for commercial purposes. Quantitatively it is many times as important as open-market commercial paper.

Promissory Notes Payable on Demand. Some promissory notes do not have any fixed date of maturity, but are payable on demand, that is, at any time that the creditor requests payment or that the debtor wishes to pay. The most important example of this type of credit in the United States is the "call loan." Call loans are loans made to security dealers and brokers on the various stock exchanges, and especially on the New York Stock Exchange, for the purpose of buying and carrying securities "on margin." Brokers and dealers borrow for the accounts of their customers as well as for their own accounts. The purchaser of securities is required to "put up a margin" (to supply a percentage of the purchase price of the securities), and the securities are then pledged as collateral for a loan sufficient to meet the remainder of their cost.

The call-loan market occupies an important place in American finance. Since these loans are safe and highly liquid, banks tend to send to this market any "surplus"

short-term funds that they may have. And when any tightness of credit occurs, they are likely to call their loans in this market before decreasing loans to their customers. Great importance, therefore, is attached to the quotations of call-loan rates from day to day and from week to week, for they are likely to be highly sensitive to changes in the demand for and the supply of loanable funds, not only in New York City, the central credit market of this country, but throughout the entire nation.

As explained in Chapter II, some promissory notes payable on demand are used as money.² The most important of these in the United States are the "greenbacks" (United States notes) and federal reserve notes. By far the largest part of the money supply is in the form of demand deposits, which are bank debts payable on demand, but ownership of these debts is transferred by means of orders to pay rather than by promises to pay.

BILLS OF EXCHANGE, OR DRAFTS

A bill of exchange, or draft, is essentially an order upon someone to pay. A specimen is shown on page 63. The essential elements of such an instrument, as shown in this illustration, are that the *drawer* (the James Roe Machinery Company) orders the *drawee* (the Chase National Bank) to pay to the *payee* or order ("ourselves") a stated sum of money at a stated time and

² See above, pp. 45-47.

place. In many drafts the *payee* is a third party and is not the *drawer*.

Bills of exchange may be classified on various bases. One classification is on the basis of the type of drawee. Drafts drawn upon banks are called *bankers' bills*. Those drawn upon individuals and corporations other

DO NOT WRITE THIS OFF BEFORE PRESENTING	\$ 684.75.....	NEW YORK, NEW YORK	NOVEMBER 28TH 1936
	..... AT SIGHT		Pay to
	the order of	..... OURSELVES	
	SIX HUNDRED EIGHTY FOUR AND 75/100.		Dollars
	Drawn under Chase National Bank Letter of Credit No. E-22350.		
	Value received and charge the same to account of		
To CHASE NATIONAL BANK OF THE CITY OF NEW YORK, FIVE STREET CORNER OF NASSAU New YORK, NEW YORK		JAMES ROE MACHINERY COMPANY, Hullings Smith Export Manager.	

SPECIMEN SIGHT BILL OF EXCHANGE

than banks are *trade bills*. Bankers' bills are used much more than trade bills in this country.

Another classification is on the basis of the maturity of the bills. Drafts payable "at sight" or "on demand", that is, upon presentation to the drawee, are called *sight* or *demand drafts*. Those payable only after a period of time are called *time drafts*. Unlike promissory notes, which may have any maturity, time drafts are virtually always short term.

The most familiar bill of exchange is the bank check, which is of tremendous importance as a means of transferring ownership of demand deposits. Technically, this is a *sight bankers' bill*, for it is drawn upon a bank and is payable on demand, that is, when presented to the bank.

The Use of Time Bills to Finance the Production, Distribution, or Sale of Goods. Time bills, which may be either trade bills or bankers' bills, are often used to finance the production, distribution, or sale of goods. How each type of bill is used to secure credit will be shown by examples.

Let us suppose that Charles Jones, a textile manufacturer in New York, wishes to purchase \$10,000 worth of raw cotton for manufacture. James Sykes, a cotton merchant, has cotton to sell. The difficulty, however, is that Sykes wishes to be paid immediately in order to buy more cotton, whereas Jones does not wish to pay until ninety days later, by which time he will have sold the finished cotton goods and will be able to pay. If Jones has a satisfactory credit rating, the problem may be solved by the use of a *time trade bill*. Sykes will draw a draft on Jones ordering him to pay to Sykes or to his "order" ninety days after sight the sum of \$10,000 at some specified place. He will then present the draft to Jones for "acceptance." Jones will "accept" the draft by writing "accepted" across its face and signing his name. By this operation he obligates himself to pay the draft as ordered. Sykes will endorse the "acceptance", which is the name applied to an accepted draft, and then sell it in the market for its face value minus interest for ninety days. At this point Jones has the cotton, Sykes has received payment by selling the acceptance, and some investor is holding the acceptance. Ninety days later, when the matured acceptance is presented for payment, Jones

will have sold the finished cotton goods, and will pay the acceptance at its face value.

Credit to finance this transaction was supplied by the purchaser of the acceptance, which was probably a bank, but which might be some other investor. For this service the purchaser of the acceptance received interest equal to the "discount" at which he purchased the acceptance, that is, the difference between the purchase price and the face value of the instrument. The interest cost, though apparently borne by Sykes, was very likely shifted to Jones. Sykes, knowing by what means he was to be paid, probably added to the price of the cotton an amount equal to the discount at which the acceptance was sold.

It is likely, however, that if any sort of time bill of exchange were used to finance the transaction in cotton it would be a bankers' bill rather than a trade bill. The latter is not widely used in this country.

Though the procedure in the use of time bankers' bills varies considerably, in this case it might be essentially as follows: Jones will request his bank to permit a draft for \$10,000 to be drawn upon it. If the bank trusts Jones, or if he will supply collateral for its protection, the bank will issue to Jones a "letter of credit." This document is a contract in which the bank, for a consideration and under certain safeguards, promises to accept the draft drawn upon it. Jones will then send the letter of credit to Sykes. The latter will draw a draft upon Jones's bank ordering it to pay to Sykes, or to his order, ninety days after sight the sum of \$10,000.

After endorsing the draft, Sykes will offer it for sale, probably to his own bank. Being assured by the letter of credit that the draft will be accepted, Sykes's bank will purchase the draft for its face value less interest for ninety days. (But the discount will be less on the bankers' bill than it would be on a trade bill of the same size and maturity, for there is less risk on a bankers' bill.) At this point Jones has the cotton, Sykes has received payment, and the Sykes bank has the draft, which it will present to Jones's bank for acceptance. After the draft is accepted, Sykes's bank may then either hold it until its maturity ninety days later, or sell it to another investor. In any case, the acceptance will, at its maturity, be presented to Jones's bank for payment. By this time, however, Jones will have sold the finished cotton goods and will have placed in the hands of his bank sufficient funds to pay the acceptance.

It will be noted that at no time did Jones's bank advance any funds. It merely assumed responsibility for the payment of the acceptance; in effect, it guaranteed Jones's debt. For this service it received from Jones a commission amounting to a fraction of one per cent of the face value of the acceptance. The loan funds were actually advanced by Sykes's bank or by the person or institution to whom Sykes's bank sold the instrument, and who held it to its maturity. The acceptance might be held by several investors during the course of its life. If so, each investor would furnish credit for the period that he held the acceptance. As in the case of financing by means of the trade acceptance, the interest cost was probably shifted to Jones.

Clean and Documentary Bills of Exchange. The bills used in the transactions described above were "clean bills"; that is, they had no documents attached to them. In most transactions of this type, however, "documentary bills", or bills with documents attached, would be used. The purpose of these documents is to vest ownership of the goods in the billholder until the bill has been accepted. If the goods are in process of shipment, a "bill of lading" giving the holder of the bill title to the goods may be attached. If the goods are in a warehouse, a "warehouse receipt" representing ownership of goods may be used.

Importance of Bills of Exchange in International Transactions. More than half of all the bills of exchange in this country arise out of international transactions. As will be explained later, these instruments are not only employed to secure credit to finance international transactions; they are also the principal means by which payments between countries are effected.

C H A P T E R I V

Investment Institutions and Commercial Banking

SAVINGS AND INVESTMENT

INVESTMENT by individual savers is sometimes made directly in the tangible or intangible property of economic enterprise. Such investment may be in the form of the purchase of shares of ownership (for example, corporate stocks), or in the form of loans (for example, bonds, notes, or other credit instruments). This method, though simple, often has serious disadvantages, not only for investors and enterprisers seeking capital but for the entire economic system.

In the first place, most savers can have only a very limited knowledge of the opportunities for investing throughout a large area. In general, they do not have access to the relevant information. Most of them are without the training and experience necessary for the understanding of complex credit and investment data. And even if they had access to the information and

had the ability to interpret it, few of them would find it feasible to make a thorough analysis of investment opportunities. If each saver had to invest on the basis of such incomplete knowledge as he could acquire for himself, his risk of loss would be great, and he would be highly unlikely to know what industries and what firms in each industry could use investment funds most productively.

In the second place, when individuals lend their own savings and attempt to insure that debtors abide by all their promises and meet interest and principal payments promptly, the administrative costs, measured in time and inconvenience, are likely to be prohibitive. When individual savers invest in part ownership of an enterprise, their judgment of comparative profit opportunities is commonly even less reliable. And, in the third place, individuals with only a limited amount of savings cannot diversify their investments, or can do so only at great expense.

For all these reasons, the volume of savings offered for investment would probably be smaller, and the allocation of capital among industries and firms demanding funds would be less efficient if no institutions existed to facilitate investment transactions.

INVESTMENT INSTITUTIONS

To release investment transactions from the impediments just described a complex system of specialized investment institutions has developed. These range all

the way from the dark and dusty little pawnshop to the imposing banks with assets exceeding a billion dollars. Some deal principally in investment in shares of ownership in enterprise, or stocks, whereas others deal mainly in credit instruments. Some deal in credit of all maturities; others specialize in long-term, intermediate-term, or short-term credit. Some deal with all types of borrowers; others deal only with specific types, such as retailers, cattle raisers, purchasers of automobiles on the installment plan, purchasers of homes, or needy working men. Thus it is possible to classify financial institutions by the types of securities in which they deal, by whether they engage principally in long-term or short-term credit, or by the type of customers they accommodate.

It is more important, however, to distinguish two groups of investment institutions; namely, those having power to create credit that is used as money and those not having such power. The former comprise the commercial banking system and the latter consist of a group of purely intermediary investment institutions.

INTERMEDIARY INVESTMENT INSTITUTIONS

These investment institutions merely bring together savers and firms seeking capital. While some of them grant credit, they are not themselves the ultimate source of the loan funds. For example, savings banks and life insurance companies make long-term loans and, to a less degree, short-term loans, with funds deposited by

numerous savers. Investment institutions of this general type, which will be briefly described below, gather savings by selling their stocks, bonds and shorter term obligations to savers and by receiving in return money that represents a part of the savers' incomes. Some of them, such as savings banks, also accept savers' money merely on deposit. Whatever the method of mobilizing the funds, when obtained they can be invested in the stocks, bonds, or other intangible property representing claims to money income arising from economic activity.¹

It is to be noted that, when an investment institution thus intervenes as an intermediary, there are three parties involved in capital transactions; namely, the firm or government unit seeking capital, the intermediary investing in the intangible property offered by such organizations, and the saver. Under such conditions, the scattered individuals save, the investment intermediary invests in the various types of intangible property representing claims to money income, and the capital seekers either borrow (by selling bonds or other credit instruments) or sell shares of ownership in their enterprise (by selling stocks). The government organizations commonly seek capital through borrowing.

Institutions Dealing in Long-Term Investment. Many types of institutions deal in long-term credit. Among the most important of these are *investment banks*. These are not lending institutions, despite their name;

¹ Cf. McIsaac, A. M., and Smith, J. G., *Introduction to Economic Analysis* (1937), Chapter XIII.

they are, rather, security merchants. They purchase newly issued securities (stocks, bonds, and short-term obligations) at one price from corporations and government units and sell them at a higher price to investors. Sometimes, especially when the amount involved is small, one investment bank will purchase and sell an entire new issue without assistance. In other cases, especially when the issue is large, as many as a dozen or more investment banks may form a "syndicate", or temporary association, to buy and sell an issue.

Before contracting to buy and sell a proposed new issue of securities, a well-managed investment bank tries to determine whether the issue is economically justified. To this end it investigates the honesty and ability of the officials of the enterprise, and attempts to determine whether the enterprise's prospective costs and the demand for its product promise to be such as to permit it to become a financial success. These things can never be predicted with certainty. But if the investigation is conducted with efficiency and in good faith and if full information is given to investors, investment banks can do much toward guiding the limited amount of investment funds into their most productive channels. If, however, investment banks are either dishonest or inefficient, they may bring about an uneconomic allocation of investment funds among industries and among firms within each industry.

It is to be noted that investment banks deal not only in credit, or debt, by buying and selling bonds and shorter term credit instruments, but they also deal

in stocks, or shares in the ownership of enterprises.

Another type of institution that deals in long-term credit as well as in stocks is the *investment trust*. An investment trust is an enterprise, incorporated or unincorporated, that issues its own securities to investors and invests the proceeds in the securities of other concerns.

The operation of investment trusts can be explained by an example. Suppose that an investment trust is incorporated and that it issues 100,000 shares of stock at \$100 a share, thereby collecting ten million dollars from investors. The officials of the trust can then invest this amount in a wide selection of securities consisting of stocks and bonds of a large number of firms operating in many industries and located in various geographic areas.

An investment trust, operated honestly and efficiently on the above principles, offers three important advantages: (1) Expert selection of securities. Because of the scope of its operations, a large investment trust can afford to conduct a careful investigation into the merits of each security and can then purchase those that promise the highest net return. (2) Economical supervision of securities. Because it operates on a large scale, an investment trust can hold and supervise securities at a low cost per unit. (3) Diversification of investments. If an individual has only a few hundred dollars to invest, he can purchase at most three or four different types of securities. If one of these should prove bad, his loss would be serious. But if an individual should purchase a \$100 share of stock in the investment trust

described above, he would in effect be purchasing a one one-hundred thousandth ($1/100,000$) interest in all the securities held by the investment trust. The loss to the investor would be much less serious, therefore, if one security among the large number in the portfolio of the investment trust should prove worthless. And there is always the possibility that declines in the prices of some securities will be offset by rises in the prices of others. Therefore, a well-managed investment trust reduces risks to investors both by expert selection of securities and by diversification.

Some investment trusts have not operated on these principles, however; they have been neither honestly nor efficiently managed, they have not diversified their investments widely, and they have acted as "speculative trusts" rather than as investment trusts.

There are many other types of institutions that collect funds from savers and invest them, thereby operating on the same general principles as the investment trust, though they differ in some respects. Building and loan associations, mortgage companies, insurance companies, and savings banks are among the most important of these.

Some institutions dealing in short-term credit operate on the general principles described above, but the most important institutions specializing in short-term credit — the commercial banks — operate in a very different way.

It is to be emphasized that the amount of loans that credit institutions, *exclusive of commercial banks*, can

grant is strictly limited to the volume of loan funds that they can gather from savers or investors. By their lending transactions they neither create money nor destroy it; they merely transfer existing money from savers to borrowers.

The statements just preceding cannot be applied to the operations of the commercial banking system. In the first place, the amount of loans that the commercial banks can grant is not determined by the amount of savings entrusted to them by individual savers. And in the second place, these banks, by increasing or decreasing the total amount of their loans, can and do increase or decrease the total quantity of money. In order to clarify the reasons for these peculiarities, it is necessary to describe more fully the structure and functioning of the commercial banking system.

THE BANKING SYSTEM OF THE UNITED STATES

There are in this country about 16,000 banks. Of these, 900 are savings banks and 15,100 are commercial banks, though most of the commercial banks have savings departments. All the savings banks and 9,500 of the commercial banks have received their charters from the states and are therefore called "state banks." Of the other commercial banks, 5,400 have received their charters from the federal government and are called "national banks." A small number of the banks are unincorporated.

The function of savings banking can be passed over

briefly. In carrying out this function, savings banks and the savings departments of commercial banks operate essentially as do other credit institutions, with the exception of commercial banks. They gather money from savers and lend it to borrowers, who withdraw the funds and use them. True time or savings deposits can be withdrawn only after the expiration of some specified period — such as thirty or sixty days. They are not withdrawable “on demand”, they are not transferable by check, and they do not act as money.

The Functions of Commercial Banks. The distinguishing characteristic of modern commercial banking is the ability to maintain and to *create* demand deposits (checking accounts) which serve as money.

The term “deposits” is likely to be misleading. It suggests that deposits originate only through the storing or depositing of cash with banks and that banks maintain in their vaults an amount of cash equal to deposits. Neither of these things is true.

Demand deposits are simply debts owed by banks and payable on demand, that is, payable at the wish of the owner of the deposit. The demand deposits (demand debts) of the banking system can be increased, of course, by entrusting additional cash to the banks, but only a small proportion of deposits originate in this way. Moreover, an increase of demand deposits resulting from the deposit of cash that was previously in circulation does not constitute a net addition to the total quantity of money; the increase of money in the form of demand deposits is offset by the decrease of cash in circulation. It will be seen later, however, that

such an inflow of cash would pave the way for a further expansion of deposits by another process.

Most deposits are *created* by the banks through the making of loans, both short-term and long-term. The banks lend to borrowers (accept the borrowers' debt) and give in return their own debts payable on demand (demand deposits). This exchange of debt for debt is advantageous to both parties. The bank receives the borrower's debt, which cannot circulate as money but which does bear interest, and the borrower receives the bank's demand debt, which does not bear interest but which can be used as money in purchasing goods and services.

This creation of demand deposits can be illustrated by a simplified example. Suppose that a group of enterprisers decide to establish a small commercial banking system in a country that was previously without such facilities. For this purpose they form a corporation and subscribe \$100,000 for its capital stock. One half of the subscribed funds are immediately paid out for buildings and other equipment. The corporation's condition, as revealed by its balance sheet, would then be as follows:

ASSETS		LIABILITIES	
Buildings and equipment	\$ 50,000	Capital stock	\$100,000
Cash	<u>50,000</u>		
	\$100,000		<u>\$100,000</u>

To show earnings, however, the banking system must acquire earning assets. Suppose, therefore, that it agrees to lend to a group of merchants \$200,000 for sixty days at a rate of interest of six per cent per year, or one per cent for sixty days. The *assets* of the banking

system would be increased \$200,000 by the loan. After deducting \$2,000 ($\$200,000 \times .01 = \$2,000$) for interest, the banking system would create on its books and give to the borrowers "demand deposits" (or checking accounts) of \$198,000. The condition of the banking system would then be as shown below:

ASSETS		LIABILITIES	
Buildings and equipment	\$ 50,000	Capital stock	\$100,000
Cash	50,000	Undivided profits	2,000
Loans	<u>200,000</u>	Demand deposits	<u>198,000</u>
	\$300,000		\$300,000

It is obvious that, by making the loans sought by borrowing enterprise, the banking system created \$198,000 of demand deposits that did not exist before.

Though a large part of their loans are short term, commercial banks also make long-term loans by purchasing such instruments as real-estate mortgages, corporation bonds, and government bonds. These are listed in their balance sheets as "investments." The making of long-term loans has the same effect on deposits as does the making of short-term loans. Therefore, if the banking system just described were to buy \$100,000 worth of investments, both its assets and demand deposits would be increased by that amount. The seller of the investments would be given demand deposits in payment.

ASSETS		LIABILITIES	
Buildings and equipment	\$ 50,000	Capital stock	\$100,000
Cash	50,000	Undivided profits	2,000
Loans	200,000	Demand deposits	298,000
Investments	<u>100,000</u>		
	\$400,000		<u>\$400,000</u>

By this purchase of investments the commercial banking system increased its demand deposits from \$198,000 to \$298,000.

The commercial banking system can create money in the form of demand deposits and in amounts far in excess of its reserves only because depositors do not attempt to convert any large part of their deposits into cash at the same time. The deposits themselves are used as money; they are transferred from one depositor to another as a medium of payments and from one bank to another, but except in periods of distrust — when the whole banking system is liable to collapse — cash is withdrawn only to make payments of a type for which the use of checks would be inconvenient. And withdrawals of cash by some depositors are ordinarily offset by deposits of cash by others.

As would be expected, the effect exerted on demand deposits by a *net* decrease of the loans and investments of the banking system is just the reverse of that exerted by a *net* increase of loans and investments; demand deposits are diminished by an equivalent amount. If the banking system above should reduce its loans by \$50,000, the borrower who repaid the loan would give to his bank an equivalent check on his deposit account and would thereby retire that amount both of his debt to the bank and of the bank's debt to him. The same would occur if the banking system reduced its investments. The buyer of the investments from the banks would pay for them by writing a check on his deposits, and the banks would reduce both their investments and their demand deposits by an equivalent amount.

BANK NOTES

Demand deposits have reached their present great importance in the money supply only after a long period of development. Not until just before the Civil War did their volume become equal to that of cash in circulation. Even in the earlier period, however, bank debts made up an important part of the money supply, for the banks, in addition to creating demand deposits, also issued bank notes, which were merely their own promissory notes payable in other cash on demand. These circulating promissory notes were issued very much as demand deposits are today. The banks made short-term loans or purchased investments and paid out their dollar-bill notes to the borrowers or to the sellers of the investments. The commercial banks could issue these circulating promissory notes in amounts far in excess of their reserves, for they knew that no considerable part of them would be presented for redemption into other money at any one time.

For a long period banks were allowed to issue their circulating notes almost without restriction. As a result, many of them abused the privilege, and overissue was common. To eliminate these evils restrictions were applied. The first restrictions were for the purpose of regulating the amount of bank notes issued and the type of assets to be held behind the notes. Later, the privilege of note issue by commercial banks was withdrawn entirely. Note issues by state banks were made unprofitable in 1865 by the federal tax of ten per cent on all such notes in circulation. The national banks

continued to issue notes until 1935, when all the government bonds eligible for use as collateral for these notes were retired. When the process of retiring the small quantity of national bank notes still outstanding is completed, the only bank notes in circulation in this country will be federal reserve notes, and these differ significantly from notes issued by commercial banks, in that the federal reserve banks are semi-governmental institutions.

LIMITATIONS UPON THE ABILITY OF THE COMMERCIAL BANKING SYSTEM TO CREATE DEMAND DEPOSITS

At this point the reader who understands that the commercial banking system can create demand deposits by making loans, and that the more loans the system makes the greater are its earnings, may well ask, "What is the limit to this process, or is there any?" Fortunately, there is a limit.

Banks in this country are required to maintain reserves equal to a certain minimum percentage of their deposits. Banks that are members of the federal reserve system — and these are the ones that will be discussed henceforth — must maintain their legal reserves in the form of deposits at the federal reserve banks. As shown on page 82, the reserve requirements of these banks vary according to the size of the city or town in which the banks are located.

MEMBER-BANK RESERVE REQUIREMENTS

RESERVES REQUIRED AGAINST DEMAND DEPOSITS IN	APRIL 1917- AUGUST 1936	AFTER MAY 1, 1937
CENTRAL RESERVE CITY BANKS . .	13%	26%
RESERVE CITY BANKS	10%	20%
BANKS IN OTHER CITIES	7%	14%
RESERVES REQUIRED AGAINST TIME DEPOSITS IN ALL CLASSES OF BANKS	3%	6%

In the period preceding August 1936, the legal reserves required against demand deposits in all member banks averaged about ten per cent, or one dollar of reserves for every ten dollars of demand deposits. Therefore, the member banks as a group could maintain demand deposits equal to about ten times (or $1/.10$) the volume of legal reserves that they possessed.

Between August 1936 and May 1937, however, the reserve requirements of member banks were doubled in order to prevent a threatened inflation. Member banks must now maintain against demand deposits a reserve that averages about twenty per cent, or one dollar of reserves for every five dollars of demand deposits. Therefore, they can as a group maintain demand deposits amounting to approximately five times (or $1/.20$) their available legal reserves.

In addition to their legal reserves, which must be in the form of deposits at the federal reserve banks, member banks find it necessary, though not legally required, to carry in their vaults some cash with which to meet

withdrawals. In normal times this vault cash averages about four per cent of demand deposits.

Thus, in the period preceding August 1936, member banks had to hold against their demand deposits a legal reserve averaging about ten per cent, and they held vault cash of about four per cent, so that their requirements for legal reserves plus vault cash were fourteen per cent of their demand deposits. As a group, therefore, they could maintain deposits equal to slightly over seven times (or $1/.14$) their legal reserves plus vault cash.

At the present time, when member banks as a group must hold legal reserves averaging about twenty per cent and do hold vault cash of four per cent, they can maintain demand deposits equal to slightly more than four times (or $1/.24$) their legal reserves plus vault cash.

When the banking system receives a *net addition* to its reserves, it can, of course, create additional deposits. But the volume of new deposits that can be created on the basis of a given accretion to reserves depends to some extent on whether or not the expansion of deposits leads to a net withdrawal of cash for circulation. If the expansion of deposits does not lead to a net withdrawal of cash for circulation, all the reserve funds received remain within the banking system and are available for use as legal reserves and vault cash. Under these conditions, the banking system can create new deposits to the extent indicated above. When legal reserve requirements average ten per cent and vault cash four per cent of demand deposits, the banking system

can create new deposits equal to about seven times ($1/.14$) the accretion to its reserves. When legal reserve requirements average twenty per cent and vault cash four per cent of demand deposits, the banking system can create new deposits of about four times ($1/.24$) the accretion to its reserves.

A deposit expansion of this amount could occur only if the expansion of deposits does not lead to a net withdrawal of cash from the banking system. Such net withdrawals are not likely to occur if the expansion of deposits is small and if it does not lead to an appreciable increase in the amount of cash used for pay rolls and for retail trade — the two principal purposes for which cash in circulation is employed.

If, however, the banking system receives a *large* net addition to its reserves and proceeds to create a *large* volume of new deposits by making loans and investments, it may bring about an increase in the amount of cash used for retail trade and for pay rolls. If this occurs, a part of the new reserve funds originally received must be used to meet the cash drain and is therefore not available for use as legal reserves or vault cash. As a result, the amount of new deposits that may be created by the banking system on the basis of a given accretion to reserves is decreased.

It has been estimated that when the expansion of deposits causes cash to flow out of the banks into circulation in “normal quantities”, that is, by an amount just sufficient to keep constant the ratio between cash in circulation and demand deposits, the banks can, upon the receipt of a given quantity of *new* reserves, expand

their deposits by only about half as much as they could if no cash flowed out into circulation. It must be remembered, however, that this is only a rough approximation.²

*THE ABILITY OF AN INDIVIDUAL BANK
IN THE SYSTEM TO CREATE
DEPOSITS*

It has been shown that the commercial banking *system* can create additional demand deposits equal to a multiple of any net addition to its reserves. An individual bank in the system would have the same power if all the deposits that it created were left with it and none of the new deposits were shifted to other banks. This is very unlikely to happen, however, when there are thousands of banks in the system and when trade covers such a wide area.

Borrowers who obtain deposits from a particular bank do so in order to purchase something, and some, if not all, of the persons from whom purchases are made will do business with other banks. If the other banks of the system are creating deposits at about the same rate, the individual bank is likely to receive from them as many deposits as it loses to them, so that it will not lose any of its reserves. If, however, the individual bank is creating deposits more rapidly than are other banks, it will probably lose to them more deposits than it receives from them and will therefore have to pay to them an amount equal to its net deficit. It will do this by check-

² For those who find formulas helpful a mathematical note is included at the end of the chapter.

ing over to them a part of its reserves at the federal reserve banks, and this loss of reserves will decrease its ability to create deposits.

Because it may lose reserves to and take reserves from other banks, an individual bank in the system must adapt its lending policies to those of the system as a whole. If it attempts to create deposits more rapidly (or to decrease them less rapidly) than do other banks of the system, it will lose to other banks more deposits than it receives from them and will have to pay out reserves to them to settle the balance. This loss of reserves will force it to create deposits less rapidly. If, on the other hand, an individual bank creates deposits less rapidly (or contracts them more rapidly) than do other banks in the system, it is likely to receive from other banks more deposits than it loses to them and to receive additional reserves in settlement of the balance. Therefore, it can follow a less liberal lending policy than do the other banks only at the expense of accumulating sterile excess reserves.

POTENTIAL VERSUS ACTUAL EXPANSION OF DEMAND DEPOSITS

The discussion up to this point has concerned the *maximum* volume of demand deposits that the banking system and individual banks can create. In all periods except those of business depression and uncertainty, banks are likely to create as large a volume of demand deposits as their reserves will support, for their earnings depend upon the volume of their loans and investments. Excess reserves are sterile assets. In

periods of prosperity when business profits are high, the banks enjoy an active demand for loans. At the same time, they estimate the risk of nonrepayment of loans to be quite low, and they have little fear of a "run" by their depositors. To hold any significant volume of excess reserves under these conditions would be to sacrifice potential profits without any offsetting advantages, so they lend as much as their reserves permit.

In periods of business recession or depression, the situation is quite different. As business profits decline, the demand for loans falls off. At the same time, the risk of nonrepayment of loans increases greatly. The banks could add to their holdings of long-term investments, as banks in certain European countries sometimes do in depression periods, but there are two deterrents to such a policy.

In the first place, the investments may decline in price, especially if the depression is severe. And in the second place, banks in the United States have such a notorious failure record that depositors may lose confidence in them and start a "run." To be prepared for this, banks must attempt to get into a "liquid" condition.³ In view of the decreased demand for loans, the increased risk of lending, the uncertainty as to the price of long-term investments, and the possibility of bank runs, it is not at all surprising that banks sometimes fail to lend or to invest to the maximum and prefer to hold some excess reserves in depression periods.

³ It may be that the insurance of deposits by the Federal Deposit Insurance Corporation will reduce bank runs and failures in the future.

*BANK CREDIT AND BUSINESS
FLUCTUATIONS*

It has already been noted that banks have been deprived of the power to create money through the issue of bank notes. In recent years many people have come to believe that banks should also be prohibited from creating money in the form of demand deposits. This belief is supported by two general lines of reasoning.

In the first place, some hold that the creation of money is a governmental function and should not be entrusted to any nongovernmental body to be exercised for its own profit. In the second place, most economists who favor a drastic revision of the present system of banking stress the fact that the prevailing practice of linking the money supply to the lending and investing operations of commercial banks tends to aggravate, if not to initiate, disequilibrium in the economic system. In a period of prosperity and rising prices, business men are anxious to borrow in order to take advantage of high prospective profits, and the banks are willing to lend. The result is often a net increase of bank loans and investments and a corresponding increase of money in the form of demand deposits. This addition to the money supply tends to increase the amount of money offered for goods and services and to produce still further increases of business and prices. The expansion becomes cumulative.

In periods of recession and depression, on the other hand, bank loans and investments are liable to decline in volume and to destroy a part of the money supply by reducing demand deposits. This reduction of the money

supply decreases still further the demand for goods and services and intensifies the business depression.

FORMULA FOR DETERMINING THE MAXIMUM ABILITY OF THE COMMERCIAL BANKING SYSTEM TO CREATE DEMAND DEPOSITS.

I. The amount by which the banking system can expand demand deposits when no net withdrawal of cash occurs may be expressed as follows :

$$X = a \cdot \frac{1}{r + v}$$

X = Amount of deposit expansion possible.

a = Addition to the reserve funds of the banking system.

r = Legal reserves required, expressed as the ratio of reserves to demand deposits.

v = ratio of vault cash to demand deposits.

If $a = \$1$, $r = .10$, and $v = .04$, the equation would be

$$X = \frac{1}{.10 + .04} = \frac{1}{.14} = \$7.14. \quad \text{If } r = .20, \text{ with } a$$

and v remaining as above, the equation becomes

$$X = \frac{1}{.20 + .04} = \frac{1}{.24} = \$4.17$$

II. If the increase of deposits brings about a flow of cash into circulation, the amount of deposit expansion possible on the basis of a given addition to bank reserves is as follows:

$$X = a \cdot \frac{1}{r + v + g}$$

g = ratio of the amount of cash flowing out into circulation to the increase of deposits, that is, the increase of cash in circulation divided by the increase of deposits. Other notations are as above.

If $a = \$1$, $r = .10$, $v = .04$, and $g = .167$, which was the average ratio of cash in circulation to demand deposits for the period 1927-1930,

$$X = \frac{1}{.10 + .04 + .167} = \frac{1}{.307} = \$3.26$$

If $r = .20$ and the other factors are as above,

$$X = \frac{1}{.20 + .04 + .167} = \frac{1}{.407} = \$2.46$$

C H A P T E R V

Central Banking and the Federal Reserve System

THE functioning of commercial banks was described in the preceding chapter. Though these institutions may benefit society, as do other economic enterprises, they are established and operated for the primary purpose of yielding a profit to their owners. To maximize these profits, they ordinarily lend as much as their reserves permit. Central banks may also realize profits, sometimes very high profits, but these are merely incidental to their main purposes. In fact, they frequently forego possible earnings in order to accomplish other ends. Their principal functions are to regulate and facilitate the operations of the commercial banks and of the monetary system, and to perform certain services for the government.

Many western countries have had central banks for a long time. The Bank of England dates back to 1694 and the Bank of France to 1800. The First Bank of the

United States (1801-1811) and the Second Bank of the United States (1816-1836) performed some of the functions of central banking, but from 1836 to 1914 there was no central bank in this country. In 1914, however, the federal reserve banks, which collectively function as a central bank for the United States, were established.

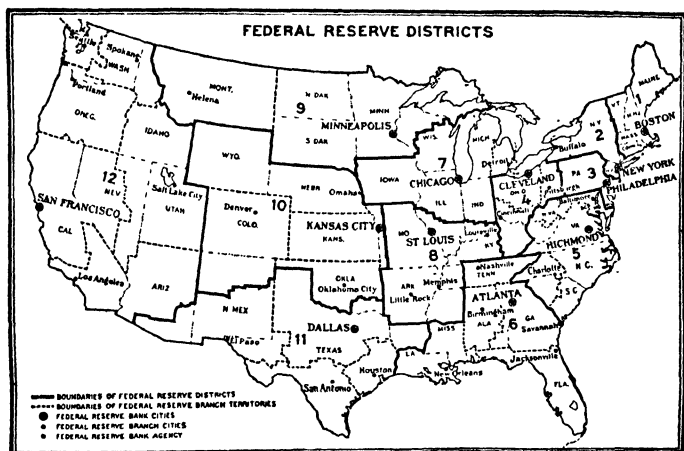
THE STRUCTURE AND CONTROL OF THE FEDERAL RESERVE SYSTEM

In other countries, the functions of central banking are performed by one central bank and its branches. Some who believed that the problems with which a central bank must deal are nationwide in scope and must be solved on a nationwide basis proposed the same type of organization for the United States, but the proposal received little support. The prevailing feelings of sectionalism, the American distrust of centralized control, the fear of domination by "Wall Street"—especially in the South and West—and the widespread belief that each of the various regions of the country presented peculiar problems requiring individual treatment made impossible the establishment of one central bank with branches.

The Structure of the Federal Reserve System. As shown in the map on page 93, the United States is divided into twelve federal reserve districts, and each district has its federal reserve bank. These twelve federal reserve banks, together with their twenty-four branches

and two agencies, are the central banking system of this country.

Each federal reserve bank has a large number of *member banks*. Every national bank must join the federal reserve bank of its district, and state banks may join if they meet certain minimum requirements as to



capital and agree to abide by the laws and regulations governing member banks. Only forty per cent of the commercial banks are members of the reserve system, but, since virtually all the nonmembers are small, the member banks have sixty-six per cent of the assets of all commercial banks.

All of the capital of the federal reserve banks was furnished by the member banks. Each member bank must subscribe for stock in the federal reserve bank of its district to an amount equal to six per cent of its own paid-in capital and surplus. On this stock, member

banks receive a return of six per cent a year. The remaining earnings of the reserve banks are either retained by them or paid into the federal Treasury.

The Control of the Federal Reserve System. Ever since the reserve system was first proposed, there has been controversy as to how it should be controlled. Should each reserve bank be autonomous, or should all of them be governed by a central body? Who should choose the governing officials — the member banks, the whole business community, or the federal government? These issues were settled by compromise, and, as is often the case with compromises, the results have frequently been very unsatisfactory.

Each reserve bank has a president and a board of directors composed of nine members. Six of the directors are elected by the member banks of the district. Of these, three are bankers and represent the banking interests; the other three, who must not be bankers, represent the interests of commerce, industry, and agriculture in the district. The remaining three directors are appointed by the Board of Governors in Washington and are supposed to represent the public interest. The president of each reserve bank is appointed by its board of directors with the approval of the Board of Governors.

At the top of the reserve system is the Board of Governors of the Federal Reserve System. This body is composed of seven members who are appointed by the President of the United States with the advice and consent of the Senate and who serve for a term of fourteen years. The functions of the Board of Governors are to supervise all the reserve banks and to secure some

degree of co-ordination of their policies, for the activities of any one reserve bank are certain to have repercussions in other districts, if not throughout the world. The Board promulgates and enforces rules governing the types of assets that may be acquired by the reserve banks; it enforces the reserve requirements of the federal reserve banks; it supervises the issue of federal reserve notes; it approves and assists in determining the discount rates to be charged on reserve bank loans; it changes member-bank reserve requirements, and, through its participation in the Open-Market Committee, it helps to determine open-market policies.

The Open-Market Committee consists of the seven members of the Board of Governors of the Federal Reserve System and five representatives of the federal reserve banks. The latter are elected annually by the boards of directors of the various federal reserve banks. This committee has complete power and responsibility for the control of the open-market operations (the purchase and sale of securities in the open market) by all the federal reserve banks.

The Federal Advisory Council is composed of twelve members, each of whom is selected by the board of directors of a federal reserve bank. It does not have administrative powers. It can only consult with, advise, and suggest to the Board of Governors. At times, however, it can bring considerable pressure to bear on federal reserve officials by giving wide publicity to its recommendations.

The multiplicity of administrative bodies in the federal reserve system and the marked vagueness of the

federal reserve act regarding the exact powers of each group of officials have in the past led to a diffusion of the responsibility for the determination and execution of federal reserve policies. This arrangement may at times have prevented the hasty adoption of ill-advised policies, but it has also resulted in dispute, delay, and compromise in situations demanding prompt and decisive action. The Banking Act of 1935, which centralized more power and responsibility in the Board of Governors and which allocated powers more carefully, is intended to remedy the situation.

THE FUNCTIONS OF THE FEDERAL RESERVE SYSTEM

THE CLEARING AND COLLECTION OF CHECKS

As has been indicated, over ninety per cent of all payments in this country are effected through the transfer of demand deposits by means of checks. In enabling the clearing and collection of these checks in the shortest possible time and with the minimum movements of actual cash, the federal reserve now plays an important part.

The Clearing of Checks When Both Drawer and Payee Maintain Deposits at the Same Bank. The transfer of deposits when both the drawer of the check and the payee maintain their deposits at the same bank is very simple. When the payee "deposits" the check, his bank merely adds the stipulated amount to his

deposit account and deducts it from the account of the drawer of the check.

The Clearing of Checks between Banks in the Same City. When there are two or more banks in the same city, it is inevitable that each will have deposited with it checks drawn on the other banks. Each bank could collect these checks by sending them by messenger to the banks on which they are drawn and by demanding cash in payment, but this would be both expensive and risky. To facilitate clearing and collection, banks in the larger cities have established *clearinghouse* organizations. At a stipulated time every day each bank sends its representative to the clearinghouse with the checks that it has received and that are drawn on other local banks. The claims of each bank against the others are added together, as are the claims of the others against it, and each bank then pays to the clearinghouse the excess of its debts over its claims, or it collects the excess of its claims over its debts. Even these balances are not paid in cash. They are usually settled by the transfer of deposits at the federal reserve banks from the accounts of the net debtors to those of the net creditors.

Clearing organizations in smaller cities are less formal, but they operate on the same general principles.

The Clearing and Collection of Checks between Banks in Different Cities but in the Same Federal Reserve District. When a check is drawn on a bank in one city and deposited with a bank located in another city but in the same federal reserve district, the process of clearing and collection may be as follows: The bank

receiving the check sends it to the federal reserve bank of the district, which then forwards it to the bank on which it is drawn. If no adverse report has been received by the reserve bank at the end of a period sufficiently long to permit the check to reach the drawee bank and to allow that bank to notify the reserve bank if the check is not good, the reserve bank deducts the amount of the check from the deposit account of the drawee bank and adds it to the account of the bank that received the check. It is to be noted that in this case, as in the others, no cash is used to effect payments.

The Clearing and Collection of Checks between Banks in Different Federal Reserve Districts. Because of its complexity, the process of clearing and collecting checks between banks that are located not only in different cities but in different federal reserve districts can best be explained by an example. Suppose that a student in Princeton, New Jersey, should deposit at a local bank a check sent to him by his father and drawn on a bank in Berkeley, California. The Princeton bank would give the student a deposit credit and send the check to the Federal Reserve Bank of Philadelphia. The latter would then send the check to the Federal Reserve Bank of San Francisco, which would forward it to the Berkeley bank. If the check was good, the San Francisco Reserve Bank would deduct the stated amount from the deposit account of the Berkeley bank, and the Philadelphia Reserve Bank would add the same amount to the reserve account of the Princeton bank. At this point the student has an

added deposit equal to that lost by his father, and the Princeton bank has an added reserve equal to that lost by the Berkeley bank, but the Federal Reserve Bank of San Francisco still owes the Federal Reserve Bank of Philadelphia.

These payments between federal reserve banks are effected through the *interdistrict settlement account*, which is operated by the Board of Governors in Washington. Since all the reserve banks have accounts with this account, it is a simple matter to settle balances between them by adding to the accounts of the reserve banks that are net creditors and by deducting from the accounts of those that are net debtors as a result of interdistrict payments.

Methods of clearing and collecting checks often vary in a number of details from those described above, but in most cases the reserve banks assist in some way.

THE RESERVE BANKS AS FISCAL AGENTS FOR THE UNITED STATES

Before the establishment of the federal reserve banks, the federal government never possessed a satisfactory fiscal agent. All the agencies previously used were unsafe, or inefficient, or functioned in such a way as to cause confusion in the financial markets. The reserve banks, however, have performed this function admirably. They hold government deposits, receive and pay out government funds, transfer government funds from one part of the country to another, and assist in the marketing of government securities.

Some of the funds of the federal government are not held with the reserve banks. The Treasury must hold its gold and silver and certain other earmarked funds in its own vaults, and some of its general funds are held with qualifying commercial banks until they are to be paid out, at which time they are transferred to the reserve banks.

Each year the reserve banks collect billions of dollars for the federal government in payment of taxes and as payment for securities, and they pay out billions to meet government expenses and to retire government securities. These operations frequently require the transfer of funds from one section of the country to another. The reserve system, with its nationwide network and its interdistrict settlement account, is admirably suited to this task.

This network of the reserve system, its close contact with banks and other financial institutions, and the intimate knowledge of the financial situation possessed by federal reserve officials, make the federal reserve system an invaluable aid in the flotation of government securities. Federal reserve officials frequently assist the Secretary of the Treasury in fixing the terms of a security issued. The reserve banks then send out circulars describing the issue, receive subscriptions for it, and deliver the securities to the buyers. They also act as agents in paying interest on the government debt and in retiring maturing obligations.

Before 1935 the reserve banks sometimes made short-term loans directly to the government. This practice was made illegal by the Banking Act of 1935, for

many feared that the reserve banks might neglect their function of controlling the volume of credit and that they might bring about inflation by excessive loans to the Treasury. The reserve banks may, however, still purchase federal securities in the open market.

THE SUPERVISION OF BANKING OPERATIONS

The Federal Reserve Act contains general provisions governing the types of credit instruments that member banks may acquire and the purposes for which they may make loans. The Board of Governors interprets these provisions, promulgates regulations based on them, and conducts examinations to insure that the member banks are being operated honestly and in compliance with the law.

The Board of Governors is not, however, the only body that supervises commercial banks. As indicated earlier, each of the forty-eight states grants charters to banks. These state banks are under the supervision of the various state banking commissioners. The national banks receive their charters from the federal government and are under the supervision of the Comptroller of the Currency. Moreover, all the banks whose deposits are covered by the federal deposit insurance scheme — and these include all member banks of the federal reserve system and most nonmember banks — are supervised by the Federal Deposit Insurance Corporation.

This multiplicity of supervisory bodies and the overlapping of their jurisdictions have at times had

unfortunate results. Federal reserve officials have frequently hesitated to impose on member banks restrictions more onerous than those under which nonmember banks were operating for fear that the state member banks would drop out of the federal reserve system. Similarly, the state banking commissioners and the Comptroller of the Currency have hesitated to place the banks under their respective jurisdictions at a "competitive disadvantage" with other banks. At times the result has been almost a competition in laxness among the regulatory bodies. When banks are subjected to regulation by two or more bodies at the same time, the effects may not be any happier. The banks are subjected to added inconvenience, confusion, and expense, and responsibility for their regulation is diffused.

In performing the functions described above, the federal reserve system has rendered valuable services to the nation. By far its most important influence, however, is exerted through its power to make loans and investments.

FEDERAL RESERVE LOANS AND INVESTMENTS

In an earlier chapter it was shown that the volume of demand deposits that the commercial banking system can create depends on (1) the volume of reserves in its possession, and (2) the legal reserve requirements under which it operates. It was also noted that all the legal reserves of the member banks must be

in the form of deposits at the federal reserve banks. These member-bank deposits at the federal reserve banks are not themselves cash, they are not "backed" dollar for dollar by cash, and they need not—and a large quantity of them do not—originate through the "deposit" or storing of cash.

These deposits at the reserve banks, like the demand deposits of commercial banks, are merely debts payable on demand, in this case by the federal reserve banks. Member banks can secure "deposits" at the reserve banks by depositing cash there, just as an individual may secure a deposit at a commercial bank by the same process. But the federal reserve banks can also create deposits with themselves by making loans and investments, just as the commercial banking system can create demand deposits. Thus, the reserve banks do not merely hold the reserves of member banks; they also increase or decrease the volume of these reserves by increasing or decreasing the volume of loans and investments that they make. The only limit to the amount of member-bank reserves that may be created in this way is the legal requirement that the reserve banks must hold a reserve in gold certificates or other lawful money (which includes all cash except federal reserve notes) equal twenty-five per cent of their deposits. Therefore, the reserve banks can, if they so desire, maintain deposits with themselves up to four (or $1/.25$) times the volume of gold certificates or lawful money available as reserves.

It was also indicated earlier that the reserve banks may issue federal reserve notes. No net increase of the

supply of cash occurs when federal reserve notes are paid out by the reserve banks in exchange for other types of cash. In this case, the increase of cash in the form of federal reserve notes is offset by the decrease of other types of cash in circulation. But when the reserve banks increase their loans and investments and pay out federal reserve notes, the supply of cash is increased, just as it used to be increased through the issue of bank notes by commercial banks. The ability of the reserve banks to issue federal reserve notes is limited by the requirement that these notes be backed by a reserve of gold certificates of at least forty per cent. Thus the reserve banks can issue federal reserve notes up to four (or $1/.25$) times the amount of gold certificates available as reserve for them.

Since loans and investments by the federal reserve banks have such an important effect upon the supply of cash and of member-bank reserves, they will be discussed more fully.

LENDING BY THE RESERVE BANKS

The federal reserve act places restrictions on the reserve banks as to both (1) the types of borrowers to whom they may lend, and (2) the types of paper on which they may lend.

The federal reserve banks may now lend to member banks, to nonmember banks, and to individuals, partnerships, and corporations other than banks.

Federal reserve bank loans to borrowers other than member banks may be passed over hurriedly. Loans are made to nonmember banks only under emergency

conditions. The reserve banks never lent to nonbanking institutions, except the federal government, before 1933. But in response to the current belief that many credit-worthy borrowers were unable to secure loans and that recovery was being delayed thereby, the federal reserve act was amended in 1933 to provide that the reserve banks might, with the approval of five members of the Board of Governors, lend to credit-worthy borrowers who were unable to secure credit through the usual channels. Only a small volume of loans has been made under this provision, however.

All but a relatively insignificant proportion of loans by the reserve banks have been made to member banks. These will, therefore, be discussed in some detail. Prior to 1932, member banks could borrow on only two general types of paper: (1) short-term promissory notes or bills of exchange arising out of the production, distribution, or sale of commodities, and (2) their own promissory notes with United States government securities as collateral. The framers of the federal reserve act, as well as federal reserve officials, have from the beginning favored the first type of paper because it is short term and "self-liquidating"; that is, it is based on transactions which, in the normal course of business, should yield sufficient funds to retire the paper at its maturity. It was hoped that making this paper eligible as a basis for borrowing at the reserve banks would encourage member banks to grant preferential treatment to this type of loan and would discourage them from making loans on securities and from buying long-term investments. Many believe, perhaps er-

roneously, that commercial banks should not supply long-term credit, either directly or indirectly.

Member banks may borrow on short-term commercial paper in either of two ways. In the first place, they may sell it to a reserve bank for its face value minus interest at the official rate charged by the reserve bank. This process is called "rediscounting", for the paper is discounted once when a member bank lends on it to a customer, and it is discounted again, or rediscounted, when a reserve bank lends on it to a member bank. The interest rate, or more accurately, the discount rate charged on loans by a reserve bank is usually referred to as the "rediscount rate." In the second place, member banks may use this type of paper as a basis for borrowing by pledging it as collateral security for their own promissory notes, which are then discounted by the reserve banks.

Member banks may also borrow from the reserve banks by giving their own promissory notes with United States government securities as collateral. This method is usually preferred by member banks because of its simplicity.

Though prior to 1932 the reserve banks could lend to member banks only as described above, the restrictions on their lending were relaxed somewhat during the depression. Subject to rules and regulations laid down by the Board of Governors, they can now lend to member banks on the latter's promissory notes secured by any paper acceptable to the reserve banks. Since, however, the rate of interest charged on loans made under this provision must be at least one half of

one per cent above the official rediscount rate, member banks are not likely to borrow in this way unless they lack government securities or "eligible" paper. This situation occurs only infrequently, but it may become of some importance in periods of severe depression when the volume of commercial paper declines greatly and when member banks are forced to borrow large amounts to meet "runs" by their depositors.

All reserve-bank loans to banks are listed in their balance sheets as "bills discounted." Loans to others than banks are listed as "industrial advances."

OPEN-MARKET OPERATIONS BY THE RESERVE BANKS

In addition to their lending power as described above, the reserve banks may buy from anyone and sell to anyone in the open market (1) bankers' acceptances, and (2) United States government securities.¹

Open-Market Operations in Bankers' Acceptances. Many sponsors of the federal reserve act believed that great advantages would accrue to the business community if bankers' acceptances were used more widely. They recognized, however, that the use of these instruments could not spread unless a market for them

¹ The reserve banks also have the legal power to buy or sell in the open market cable transfers, trade acceptances, acceptances of the Federal Intermediate Credit banks, obligations of the Federal Farm Mortgage Corporation and of the Home Owners' Loan Corporation, and any other obligations fully guaranteed as to principal and interest by the federal government. Farm Loan and Federal Intermediate Credit bonds, and state and municipal bonds issued in anticipation of taxes, may be purchased or sold if they mature within six months. For our present purposes, however, the securities mentioned in this note may be ignored, for in practice the reserve banks confine their open-market operations almost entirely to bankers' acceptances and United States government securities.

was developed. It was provided, therefore, that acceptances might be purchased in the open market by the reserve banks.

In practice, the reserve banks fix their discount rate on acceptances and then purchase all offered to them at the rate fixed. The amount of acceptances offered to them can be controlled roughly by changes in this discount rate, which is usually below the official re-discount rate applying to reserve-bank loans. If the official discount rate on acceptances is kept high relative to short-term interest rates in the open market, most of the outstanding acceptances will be purchased by other investors, and few will be offered to the reserve banks. If the official discount rate on acceptances is kept low relative to short-term open-market rates, fewer acceptances will be purchased by private investors and more will be offered to the reserve banks.

Acceptances purchased in the open market are listed in the balance sheets of the reserve banks as "bills bought."

Open-Market Operations in United States Securities. The Open-Market Committee, acting for the reserve banks as a group, may buy and sell, in the open market, United States government securities of any maturity. As will be shown later, this is the most potent instrument of federal reserve credit policy.

It is to be emphasized that any net increase or decrease of loans and investments by the reserve banks increases or decreases the supply of cash and of member-bank reserves. When the reserve banks lend to member banks or purchase acceptances or United States securities from them, they create and pay over to mem-

ber banks additional reserve balances (deposits at the reserve banks) or cash, whichever the member banks prefer. When, on the other hand, the reserve banks decrease their loans to member banks or sell assets to them, they deduct an equivalent amount from member-bank reserves, or the member banks must remit an equivalent amount of cash. Usually the former occurs.

Transactions between the reserve banks and persons or institutions other than member banks have the same effects as those just described. When persons or institutions other than member banks borrow from the reserve banks or sell assets to them, they receive checks drawn on the reserve banks. These checks are deposited with member banks, which send them to the reserve banks for collection and thereby secure additional reserves, or cash if they desire it. When, on the other hand, persons or institutions other than banks repay loans to the reserve banks or buy assets from them, they give to the reserve banks checks drawn on member banks, and the reserve banks deduct an equivalent amount from member-bank reserves.

In summary, the federal reserve banks can create additional member-bank reserves and furnish additional cash for circulation by increasing their loans and investments, that is, the volume of their loans, and their holdings of acceptances and United States securities. They can reduce the supply of member-bank reserves and of cash for circulation by reducing their loans and investments. As will be shown later, this control of the volume of their loans and investments is one of the principal ways in which the federal reserve authorities have attempted to regulate the supply of money.

CHAPTER VI

The Quantitative Control of Bank Credit

THE latter part of this chapter will deal with the ways in which the federal reserve authorities and the Treasury can attempt to control the quantity of money, and especially the quantity of bank deposits. It will be found that one of the most important methods is by regulating the volume of funds available for use as cash for circulation and as member-bank reserves. The first part of the chapter, therefore, will summarize all the factors affecting the volume of these funds.

FACTORS RELATED TO THE VOLUME OF FUNDS AVAILABLE FOR USE AS CASH IN CIRCULATION AND AS MEMBER-BANK RESERVES

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The table on page III summarizes all the immediate factors influencing the amount of funds available for member-bank reserves and for cash in circulation.

On the left side are shown all the sources from which are supplied funds capable of being used as cash or as member-bank reserves. It has already been shown that any increase of federal reserve credit (federal reserve loans and investments) supplies funds that can be used as cash or as member-bank reserves. The same is true of additions to the monetary gold stock; any increase of the monetary gold stock supplies funds that may be used as cash or as member-bank reserves. Similarly, any increase of Treasury currency (government credit money) may be used as cash or deposited with the reserve banks to give member banks additional reserve balances.

SOURCES OF RESERVE FUNDS AND THEIR USE, MAY 31, 1937¹ (In Millions of Dollars)

BILLS DISCOUNTED . . .	17	TREASURY CASH AND DEPOSITS	
BILLS BOUGHT	6	AT THE F. R. BANKS . .	3,217
U. S. SECURITIES HELD .	2,526	NONMEMBER-BANK DEPOSITS	272
OTHER FEDERAL RESERVE		OTHER F. R. ACCOUNTS . .	255
CREDIT	35	CASH IN CIRCULATION . .	6,462
TOTAL FEDERAL RESERVE		MEMBER-BANK RESERVE BAL-	
CREDIT	2,585	ANCES	6,915
MONETARY GOLD STOCK .	11,990		17,121
TREASURY CURRENCY . .	2,546		
	17,121		

For example, it will be noted that on May 31, 1937, the amount of funds supplied from these sources was 17,121 million dollars. If there had been no competing demand for these funds, this full amount would have been available for use as circulating cash or as member-

¹ *Federal Reserve Bulletin*, July 1937, p. 620.

bank reserves. Some of these funds, however, were absorbed in other ways. A part (3,217 million dollars) was locked up in the vaults of the United States Treasury and as Treasury deposits at the federal reserve banks. Another part (272 million dollars) was absorbed in the form of nonmember-bank deposits at the federal reserve banks. And still another part (255 million dollars) was absorbed in miscellaneous ways lumped together here as "Other federal reserve accounts." In all, 3,744 million dollars of the 17,121 million dollars of funds were absorbed in these three ways. All the remainder, however, or 13,377 million dollars, was available for use either as cash in circulation or as member-bank reserves.

The amount of funds available for use as cash in circulation or as member-bank reserves can now be stated accurately. It is equal to the aggregate of the funds supplied by total federal reserve credit, the monetary gold stock, and Treasury currency minus those funds absorbed by Treasury holdings of cash and Treasury deposits at the federal reserve banks, by nonmember-bank deposits at the federal reserve banks, and by "other federal reserve accounts."

Federal reserve credit has already been discussed sufficiently, but the other items mentioned require some explanation.

The Monetary Gold Stock. Any net increase or decrease of the monetary gold stock of the country tends to increase or to decrease the volume of funds available for use as cash and as member-bank reserves. It is easy

to see how this occurs when the country is on a gold-coin standard and its mint stands ready to coin freely all gold offered to it. The owner of the gold ships it to the mint, which then issues an equivalent amount of gold coins or gold certificates. This new money can be used as cash in circulation, or it can be deposited with member banks and then sent on to the federal reserve banks. If the latter occurs, there will result equivalent increases in each of the following: (1) Demand deposits at member banks, (2) member-bank reserves, and (3) federal reserve bank reserves.

Since the enactment of the monetary legislation of 1934, the United States has been on an "international gold-bullion standard." The public may not hold either gold itself, except in small amounts, or gold certificates. All gold must be surrendered to the Treasury, and no gold is coined. Since, however, gold may be imported and exported and since the Treasury will buy and sell gold freely, changes in the monetary gold stock have virtually the same effects that they would have if the country were on the gold-coin standard.

The Treasury buys all gold offered to it at a price of \$35 an ounce and pays for it with checks drawn on the federal reserve banks. The seller of the gold then deposits the check with a member bank, and receives an equivalent addition to his demand deposits. The member bank sends the check to the reserve bank and receives a corresponding addition to its reserve balance there. And the Treasury issues to the reserve bank an

equivalent amount of gold certificates, thereby replenishing its own deposits and adding to the reserves of the reserve bank.

In summary, the immediate effects of an increase in the monetary gold stock are equivalent additions (1) to demand deposits at member banks, (2) to member-bank reserves, and (3) to federal reserve bank reserves. The effects of a decrease in the monetary gold stock are just the opposite; demand deposits at member banks, member-bank reserves, and federal reserve bank reserves are all decreased by a corresponding amount.

As long as the mint price of gold remains fixed, changes in the dollar value of the monetary gold stock of this country can occur only through variations in the physical volume of monetary gold. This physical volume of monetary gold can be increased through (1) gold imports from abroad, (2) domestic production of gold, and (3) inflows of gold from the arts (through the melting of gold scrap, for example). The physical volume of monetary gold can be decreased, on the other hand, through (1) gold exports and (2) withdrawals of gold from monetary use for use in the arts. Imports and exports are usually by far the most important sources of change in the monetary gold stock.

The dollar value of the monetary gold stock can be changed, however, by changing the mint price of gold in terms of dollars. In January 1934, the monetary gold stock of this country contained 196 million ounces of pure gold. At the mint price of \$20.67 an ounce, this gold was valued at 4,052 million dollars. At the end of

that month, the mint price of gold was raised to \$35 an ounce, whereupon the value of this same physical volume of gold was pushed up to 6,860 million dollars—an increase of 2,808 million dollars. This increase accrued to the Treasury as a profit. The President and the Secretary of the Treasury have the power, if they wish, to raise the price of gold as high as \$41.34 an ounce, but it seems highly unlikely that this will be done.

The value of the monetary gold stock could be decreased, of course, by lowering the mint price of gold. This has never occurred in the United States.

Treasury Currency. This item includes (1) national bank notes, (2) United States notes (greenbacks), (3) silver certificates, (4) Treasury notes of 1890, (5) silver dollars, and (6) subsidiary and minor coins.

It is obvious that any increase in the total of these types of money supplies cash that can be used for circulation or that can be deposited by member banks at the reserve banks to give additional reserves to both member banks and reserve banks. Ordinarily, however, the total of this item fluctuates but little. Since 1932 the most important changes in it have occurred through the retirement of most of the national bank notes and through the increase of silver currency (silver coins and silver certificates) resulting from the silver-purchase policy of the government. On several occasions between 1932 and 1935, however, it appeared that Treasury currency might be greatly increased, for powerful groups in Congress proposed to print large issues of new greenbacks to pay the soldiers' bonus, to

meet the costs of relief of the unemployed, and to re-finance farm mortgages. But these movements were unsuccessful.

As shown earlier, the total of federal reserve credit, the monetary gold stock, and Treasury currency represents the amount of the funds that would be available as cash for circulation or as member-bank reserves, if none of these funds were used for other purposes. It is now necessary to discuss the other purposes for which these funds could be used.

Treasury Holdings of Cash and Deposits at the Reserve Banks. It is clear that when any cash is locked up in the vaults of the Treasury, it is not available for other purposes. Likewise, any Treasury deposits held idle at the reserve banks cannot be used as member-bank reserves. Therefore, any net increase of cash in the Treasury vaults and of Treasury deposits at the federal reserve banks represents an absorption of funds, and any net decrease of this item represents a release of funds. Because of its relation to credit policy, this item will be discussed in more detail in the latter part of this chapter.

Nonmember-Bank Deposits at the Reserve Banks. Some of the funds supplied from the above-described sources fall into the hands of nonmember banks and are held by them as deposits with the reserve banks. These deposits can, in almost every case, be counted as reserves by the nonmember banks, though their primary purpose is usually to facilitate the clearing and collection of checks. Any funds absorbed by this use cannot be employed for other purposes. Fluctuations

of this item are usually relatively unimportant in size.

Other Federal Reserve Accounts. This miscellaneous item represents the amount of funds absorbed by the reserve banks themselves. Since it varies so little over even fairly long periods, it may for our present purposes be neglected.

Summary. At any given time, the volume of funds available for use as cash in circulation and as member-bank reserves is equal to the sum (of total federal reserve credit plus the monetary gold stock plus Treasury currency) minus the sum (of Treasury holdings of cash and Treasury deposits at the federal reserve banks plus "other federal reserve accounts"). And the net change in the volume of funds available for cash in circulation and for member-bank reserves is equal to the net change of the first group of items minus the net change of the second group.

CONTROL OF THE QUANTITY OF MONEY

CONTROL BY THE FEDERAL RESERVE SYSTEM

As indicated earlier, the most important function of the federal reserve system is to exert some degree of control over the quantity of money, especially over money in the form of demand deposits at member banks. It may exercise this control in two general ways: (1) By affecting the quantity of member-bank re-

serves, and (2) by varying member-bank reserve requirements.

Federal reserve officials affect the quantity of member-bank reserves by controlling the volume of federal reserve credit outstanding in its various forms. The two principal instruments through which they control the volume of reserve-bank loans are the rediscount rate and "direct action."

Changes of Rediscount Rates. When federal reserve officials wish to retard an expansion or to force a contraction of member-bank loans and investments, they may raise the rediscount rates charged on reserve-bank loans. This increase of rediscount rates raises the cost of borrowing at the reserve banks and encourages member banks to repay loans to the reserve banks, or at least not to borrow as much as they would if the rediscount rates were lower. This curtailment of reserve-bank loans reduces the volume of member-bank reserves and discourages member banks from expanding their loans and investments.

When, conversely, reserve officials wish to retard a contraction or to encourage an expansion of member-bank credit, they may lower rediscount rates. This reduction of the rediscount rates encourages member banks to borrow at the federal reserve in order to acquire reserves on which to expand their deposits by increasing their loans and investments.

If member banks were actuated solely by a desire to maximize their immediate profits, changes in rediscount rates would probably be an effective instrument of control. But member banks frequently refrain from bor-

rowing even when it is profitable to do so. Over a long period there has grown up in the American banking community a "tradition against rediscounting" — a feeling that a bank should borrow only for short periods or in emergencies and should not rely too much upon borrowed funds. This feeling is especially strong in periods of depression, when debts of all kinds are considered burdensome; and it is weakest in periods of prosperity, when to incur debt is generally considered merely good business practice. Though this tradition against rediscounting does militate against the effectiveness of changes in the rediscount rate, especially against the effectiveness of attempts to encourage member-bank borrowing, it still remains true that member banks are more willing to violate the tradition and are more likely to borrow if rediscount rates are low than they would be if rediscount rates were higher.

Direct Action. Another instrument sometimes used by federal reserve officials to regulate the amount of member-bank borrowing from the reserve banks is "direct action", or "moral suasion." This instrument may take several forms. It may consist merely of widely publicized statements or speeches of federal reserve officials warning business men and bankers against certain unwise practices. It may consist of circular letters to bankers explaining current credit policies and requesting co-operation. It may involve personal letters to member bankers or personal interviews with them. And, if all else fails, it may involve refusal to lend at all to a member bank. This instrument has

usually been employed to curb member-bank borrowing, but at times it has been invoked to encourage member banks to borrow from the federal reserve in order to expand their credit.

Changes of the Discount Rates on Acceptances Purchased in the Open Market. It has already been shown that the reserve banks ordinarily fix the discount rates at which they will purchase acceptances in the open market and then purchase all acceptances offered to them at that rate of discount. When they wish to reduce their holdings of acceptances, they raise the discount rate applying to them. To raise the rate of discount is the same as to offer a lower price for acceptances. And when they wish to increase their holdings of acceptances, they lower the discount rate on them. Or, what is the same thing, they offer a higher price for acceptances.

A reduction of reserve-bank holdings of acceptances tends to decrease the volume of funds available for cash and for member-bank reserves. An increase of reserve-bank holdings of acceptances tends to increase the volume of funds available for cash and for member-bank reserves.

Open-Market Sales and Purchases of United States Securities. These open-market operations are now considered the most powerful weapon in the hands of federal reserve authorities. If federal reserve officials wish to curtail member-bank credit or to retard its expansion, they may sell United States securities in the open market. The immediate effect is a corresponding

reduction of member-bank reserves. If the securities are sold to member banks, the member banks must draw down their reserve balances to pay the federal reserve for the securities. If customers of member banks buy the securities from the federal reserve, they will pay with checks drawn on member banks, and the federal reserve will deduct the required amount from member-bank reserve balances. When member banks lose reserves, they must either contract their credit immediately or borrow from the reserve banks to replenish their reserves. Even if they do the latter immediately, they will gradually curtail their credit in order to get out of debt at the reserve banks.

If federal reserve officials wish to encourage an expansion of member-bank credit or to retard its contraction, they may purchase securities in the open market. Whether these purchases are made from member banks or from others, the immediate effect is a corresponding increase of member-bank reserves. Member banks are then in a position either to expand their credit or to pay off loans at the reserve banks. Federal reserve purchases of securities ease the credit situation even if member banks use the newly created funds to repay their debts at the reserve banks, for member banks are more willing to grant loans when they have retired their debts at the federal reserve than they are when they are deeply in debt.

Changes of Member-Bank Reserve Requirements. All the instruments discussed up to this point enable reserve officials to affect the volume of member-bank

reserves. Prior to 1933 these were the only instruments of policy possessed by the reserve system. As a result of the banking acts of 1933 and 1935, however, the Board of Governors may now, upon the vote of at least four of its members, increase or decrease the reserve requirements of member banks, but these requirements may not be less than those in effect in 1933 or more than double that level.

An increase of member-bank reserve requirements decreases the volume of deposits that can be supported by a given volume of reserves and therefore tends to curtail bank credit. A reduction of these reserve requirements increases the volume of deposits that can be supported by a given reserve and therefore encourages an expansion of bank credit. Suppose for example, that member banks possess legal reserves amounting to 2,000 million dollars. If their legal reserve requirements against demand deposits should average ten per cent, this volume of reserves would support 20,000 million dollars of demand deposits. But if their reserve requirements were raised to twenty per cent, this volume of reserves would support only 10,000 million dollars of demand deposits.

This power to change reserve requirements has been invoked twice, both times to curb a threatened expansion. In the summer of 1936, member banks had 3,000 million dollars of excess reserves and were expanding their loans and investments, and therefore their deposits, rapidly. To place a limit on this movement, the Board of Governors raised all member-bank reserve requirements fifty per cent.

MEMBER-BANK RESERVE REQUIREMENTS

RESERVES REQUIRED AGAINST DEMAND DEPOSITS AT	IN EFFECT PRIOR TO AUGUST 1936	ESTABLISHED IN AUGUST 1936	ESTABLISHED IN THE SPRING OF 1937
CENTRAL RESERVE CITY BANKS . .	13%	19½%	26%
RESERVE CITY BANKS	10%	15%	20%
OTHER BANKS . .	7%	10½%	14%
RESERVES REQUIRED AGAINST TIME AND SAVINGS DEPOSITS AT ALL MEMBER BANKS	3%	4½%	6%

In the spring of 1937 the Board again raised these requirements in a series of steps, so that thereafter they stood at double the requirements prevailing before August 1936. Member-bank reserve requirements cannot be raised above this level without amendments to the federal reserve act, but they can be lowered by as much as fifty per cent at the discretion of the Board of Governors.

Summary. Federal reserve officials possess a number of instruments that may be used to control the quantity of demand deposits. If they wish to follow a restrictive policy, they may take any one or more of the following actions: (1) Raise rediscount rates, (2) employ "direct action" to curtail member-bank borrowing, (3) increase the discount rate on acceptances purchased in the open market, (4) sell United States securities, and (5) raise the reserve requirements of member banks (but not above the present level).

If reserve officials wish to encourage an expansion or to discourage a contraction of bank credit, they may (1) lower rediscount rates, (2) employ "direct action" to encourage member-bank borrowing, (3) lower the discount rate on acceptances purchased in the open market, (4) purchase United States securities in the open market, and (5) lower member-bank reserve requirements.

CONTROL BY THE FEDERAL TREASURY

As a result of numerous developments in recent years, the Secretary of the Treasury can now, if he so desires, exercise on the credit situation an influence fully as great as that of the federal reserve authorities. With the approval of the President of the United States, he can increase the monetary value of the gold stock by raising still further the price of gold. He can increase the volume of Treasury currency by speeding up purchases of silver under the Silver Purchase Act of 1934. But he can exert perhaps the most important influence of all by varying the volume of "Treasury cash and deposits at the federal reserve banks." By increasing this item he can reduce member-bank reserves and tighten credit. By decreasing it, he can release funds to member-bank reserves and ease credit. The total of this item is composed of several parts.

When the mint price of gold was increased from \$20.67 to \$35 an ounce in 1934, the Treasury reaped a profit of 2,808 million dollars. Of this amount, 2,000 million dollars were turned over to the newly created Stabilization Fund. Most of the gold belonging to

the Stabilization Fund is now held idle in the Treasury vaults, and the remainder that is unused is held on deposit at the reserve banks. The Fund is managed by the Secretary of the Treasury who is empowered to buy and sell for the Fund's account foreign exchange and certain stipulated domestic securities. Whenever the Stabilization Fund buys any type of credit instrument, the effects are the same as those of reserve-bank purchases of securities; member banks receive added reserves, for the Treasury must pay out funds to cover the cost of the credit instruments. When the Treasury sells credit instruments and takes in gold, cash, or deposits at the reserve banks in payment, the effects are the same as those of reserve-bank sales of securities; member banks lose reserves.

In December 1936, the Treasury began a new policy of "sterilizing" further additions to the monetary gold stock. Instead of permitting increases of the gold stock to add to member-bank and reserve-bank reserves, the Treasury in effect paid for this gold with government bonds rather than with money, and locked up the gold in Treasury vaults in an "inactive" account. In a period of seven months the Treasury "sterilized" well over 1,000 million dollars of gold. Then, in September 1937, in an effort to ease the credit situation, the Treasury paid out 300 million dollars in gold certificates, thereby adding an equivalent amount to the supply of cash and bank reserves.

The Treasury may also influence the volume of bank reserves through manipulations of its general fund. By transferring its deposits from member banks to the

reserve banks it can reduce member-bank reserves, and by shifting deposits from reserve banks to member banks it can increase member-bank reserves.

The influence of the Treasury on the credit situation may be increased still further by its management of the reserve funds of the social insurance plans. Under the present provisions of the Social Security Act, the reserve fund of the old-age benefit plan may reach the astounding sum of 47 billion dollars by 1980, and reserves for the unemployment insurance plans may amount to several billions. If all money received under these plans is immediately paid out for securities, bank reserves will not be affected. But if, because of these plans, the Treasury allows its holdings of cash and deposits at the reserve banks to fluctuate widely, building them up at one time and drawing them down at another, the influence on the quantity of bank reserves may be very important.

Even this cursory examination indicates that the power of the Treasury to exercise what are essentially central banking functions is tremendous. It is impossible to predict what the results of the division of this power between the federal reserve and the Treasury will be. If the Treasury permits federal reserve officials to formulate credit policies and then offers its full cooperation in the execution of those policies, the result may well be the most effective credit control the country has ever known. But there is a very real danger that the federal reserve and the Treasury will not cooperate and that on occasion they will be attempting to attain different objectives and will be following con-

flicting credit policies. Some observers are fearful that the Treasury may come to dominate the federal reserve and to control central banking functions, and that it will use its powers to facilitate the flotation of government securities, and not to stabilize business.

PART THREE

MONETARY THEORY

C H A P T E R V I I

Meaning of the Value of Money

DISCUSSION of the factors determining the value of money has been deferred until this point because of the close connection between the value of money and the operation of the banking system. Since demand deposits subject to check are the most important component of the supply of money, it has been necessary to describe the functioning of the commercial banking system and of the federal reserve system before proceeding further with the study of money that was begun in the first two chapters of this book.

This chapter will deal with the meaning of the value of money, methods of measuring changes in the value of money, and the significance of changes in the value of money. In Chapters VIII and IX the value of money will be discussed largely from the point of view of an isolated country. The international aspects of money and of its value, which are very important, will be considered in Chapters X and XI.

THE VALUE OF MONEY

By the value of money, as was pointed out in Chapter I, is meant the buying power or purchasing power of money over things in general. In other words, the value of money is clearly dependent upon the *general level* or *average* of prices of the things that money is used to buy. The problem of the determination of the value of money is simply the problem, considered from another point of view, of the determination of the general level of prices. For example, suppose that it were possible to draw up a list of the prices of all the things that money could be used to buy today. Suppose further that the necessary statistics to draw up a similar list of prices prevailing a year ago today were also available. It would be found that some prices had risen and some had fallen during the course of the year. But suppose that there had been more rises than declines, with the result that it would take just twice as much money today to buy the list of things as it would have taken a year ago. If this were the case, the purchasing power of a dollar would be only one half what it was a year ago.

The purchasing power or value of money is, therefore, the inverse or reciprocal of the general level of prices; it rises as the price level falls and falls as the price level rises.

It should be noted that the *general* price level includes all prices, such as the prices of consumers' goods, producers' goods, land, wages, rents, stocks and bonds, etc. The general price level can thus be broken up into a

group of subsidiary price levels, or segments, comprising the prices of specific groups of commodities or services such as those mentioned, or it can be broken up into such groups as wholesale prices, retail prices, export prices, and the like. Many types of economic analysis are concerned with the relative movements of these segments of the price level or with relative changes in individual prices. This chapter, however, will be concerned primarily with changes in the *general level of prices*, which may be thought of as reflecting the average change in the subsidiary segments of which it is composed.

INDEX NUMBERS

Index numbers are statistical devices used to measure the average change of the prices of a group of commodities or services. An index number of prices is essentially a form of average that makes it possible to compare price movements of groups of things over periods of time.

For example, it might be desired to measure the trend in the wholesale prices of a selected group of farm products (such as corn, oats, and wheat) between June 1932 and June 1933. The data necessary for the comparison obviously involve the prices of the three commodities in June 1932 and in June 1933, but it is also necessary to have proper weights indicating the relative importance of the three commodities. The relative importance of the commodities may be measured by the quantities of them that have been used during the year or some other specified period. The

following table gives the prices of selected grades of corn, oats, and wheat averaged for June 1932 and June 1933, respectively; it also includes the weights that were used in connection with these commodity prices by the Bureau of Labor Statistics in compiling the general index of wholesale prices.¹

COMPUTATION OF PRICE LEVEL OF SELECTED AGRICULTURAL PRODUCTS, JUNE 1932 TO JUNE 1933

(All Prices per Bushel and Weights in Thousands of Bushels)

COMMODITY	AVERAGE PRICES		WEIGHTS	WEIGHTED PRICES	
	JUNE 1932 1	JUNE 1933 2		JUNE 1932 4	JUNE 1933 5
Corn * . . . .	.308	.458	205,080	\$63,165	\$93,927
Oats † . . . .	.214	.327	289,473	61,947	94,657
Wheat (hard) ‡ .	.453	.792	216,464	98,058	171,439
Wheat (spring) §	.556	.809	138,785	77,164	112,277
Aggregates				\$300,334	\$472,300

* Chicago, contract grades

† No. 2, white, Chicago

‡ No. 2, hard, Kansas City

§ No. 2, dark northern spring, Minneapolis

The first two columns contain the respective prices of each commodity averaged for June 1932 and June 1933. The third column contains the weights for each; these weights consist of the number of bushels of each produced in a representative year. Columns four and five give the prices multiplied by these weights; they show the total dollars' worth of the typical amount of each that would result from the given prices. With a

¹ Bureau of Labor Statistics, *Bulletin No. 521*, p. 73

price rise from .308 dollars per bushel to .458 dollars per bushel, for example, the aggregate value of the typical annual production of corn would increase from \$63,165,000 to \$93,927,000. When columns four and five are added, a comparison may be made between the total price for these grains in June 1932 and June 1933. These aggregates can be converted into indexes. With June 1932 as the "base", the index numbers of the price level of grains would be:

	Index of Price Level
June 1932	100
June 1933	157

In converting the series of aggregates into relatives, the process is simply to divide each by the one selected as a base and to multiply the results by 100. In the present instance:

$$\begin{array}{l} \$300,334 \div \frac{\$300,334}{1} \times 100 = 100 \quad \text{June 1932} \\ \text{and} \\ \$300,334 \div \frac{\$472,300}{1.57} \times 100 = 157 \quad \text{June 1933} \end{array}$$

Thus the price level of these selected grains in June 1933 was 157 per cent of their price level in June 1932. Since the purchasing power of money over these grains is the reciprocal of the price level, it moved down from 100 to 64. In other words, a dollar would buy on the average only 64 per cent as much of these grains in June 1933 as it would in June 1932.

The above method of constructing an index number of prices is called the "weighted aggregative method"

and is widely used. But this is not the only procedure employed. There are scores of methods and formulas for calculating index numbers and weighting their components. The method used depends upon the specific purpose for which the index number is to be employed and upon the degree of accuracy required. Because of this variety, published index numbers of various kinds must be used with caution. It is often necessary to analyze the composition of an index number, both as to the commodities included and as to the statistical technique employed, before correct inferences can be drawn from it.

Various Kinds of Price Index Numbers. Many different kinds of price index numbers are compiled and published at the present time. One of the most important of these is the wholesale price index compiled by the United States Bureau of Labor Statistics. This index is computed from 889 price series weighted by the quantity of the commodity marketed in typical years. In addition, the bureau compiles index numbers of wages, of the cost of food at retail in fifty-one cities, and of the cost of living in thirty-seven cities. The cost-of-living index includes not only food, but also clothing, housing, fuel and light, furniture, and a group of miscellaneous items. The price of each item is weighted according to its relative importance as ascertained by a nationwide survey of consumer expenditures. Index numbers of various kinds of price levels are also published by other government agencies, such as the Department of Agriculture, the Department of Commerce,

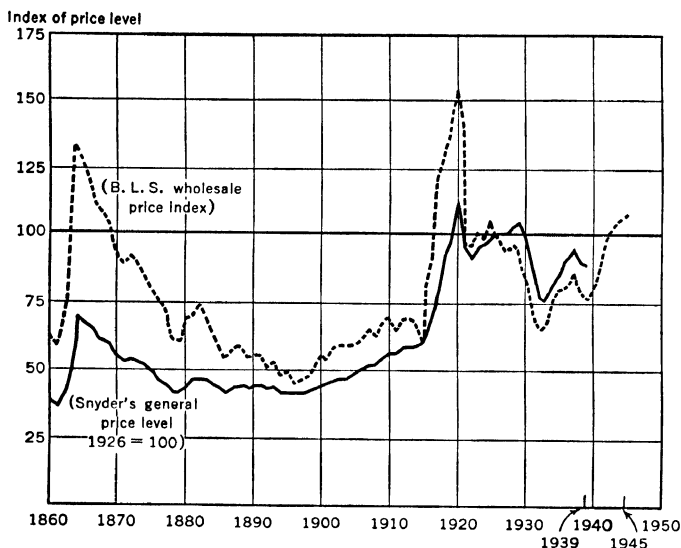
and the Federal Reserve Board, as well as by private individuals and corporations.

An Index Number of the General Price Level. While these various kinds of index numbers are highly useful in many kinds of economic analysis, they cannot be used individually as accurate measures of a change in the general level of prices and hence of a change in the purchasing power of money over things *in general*. These individual index numbers represent movements of only segments of the price level, though in the case of the Bureau of Labor's indexes of wholesale prices and of the cost of living the segment covered is a broad one. The most interesting and comprehensive attempt to measure the trend of the general price level is an index number compiled by Carl Snyder, formerly of the Federal Reserve Bank of New York.² In this index number, twelve price groups are weighted as follows:

1. Industrial commodity prices at wholesale	10
2. Farm prices at the farm	10
3. Food prices at retail	10
4. Other cost of living items	10
5. Real estate values	10
6. Security prices	10
7. Equipment and machinery prices	10
8. Wages	15
9. Rents	5
10. Transportation costs	5
11. Hardware prices	3
12. Automobile prices	2
	<hr/>
	100

Snyder's index and the Bureau of Labor Statistics' wholesale price index are shown in the figure on page 138. It will be noted that though the two index numbers

² The publication of this index was continued in the *Monthly Review of Credit and Business Conditions* until its January 1940 issue in which the last figure given is for November 1939.



PRICE LEVEL TRENDS

move in close harmony as to direction of change, except for the period 1925-1929, the amount of fluctuations is much greater in the case of the wholesale price index.

KINDS OF PRICE LEVEL MOVEMENTS

Price level movements may be classified as secular, cyclical, and irregular. The prices of some individual commodities also show a pronounced seasonal variation within a given year, but this movement is not appreciable in a general level of prices and will, therefore, be disregarded.

Secular. The secular, or long-run, price trend is the general upward or downward drift in prices over a period of years. Thus, if prices in general are rising over a period of ten or more years it is said that the

secular trend of prices is upward. The figure on page 138 shows that the secular trend of prices was upward from 1896 to 1914. During the preceding two decades the secular trend of prices was downward.

Cyclical. Cyclical price movements refer to the alternating rise and fall in index numbers of prices during the course of a business cycle. Periods of prosperity are usually marked by rising prices, and periods of depression by falling prices. It is the cyclical fluctuations of prices that largely explain the short-run oscillations in the index numbers shown in the figure. Although the secular trend of prices may be upward, this does not mean that prices move steadily upward year after year; there will be some years in which prices halt their rise, or even fall. During a period when the secular trend of prices is upward, the prosperity phase of business cycles tends to be prolonged, and the depression phase shortened. This means that prices will usually be rising for a longer time than they will be falling. In other words, prices will rise during the long periods of prosperity more than they will fall during the short periods of depression. This will result in a secular rise in prices, even though there are some years in which prices actually fall. Conversely, when the secular trend of prices is downward, the prosperity phase of cycles is shortened, and the depression phase lengthened. Consequently there will be a secular decline in the price level even though there are some years in which prices are rising. Thus cyclical price movements appear as fluctuations around the secular trend of the price index.

Irregular. Irregular price movements are those not included in secular, cyclical, and seasonal. They may be caused by such factors as wars or natural catastrophes which show no regularity of recurrence and which usually have primarily a short-run effect. Sometimes these irregular movements are submerged in the cyclical or secular movement of prices, and cannot be distinguished clearly in index numbers of the type used in the figure. This is not true, however, of the sharp upward movement of prices caused by the Civil War and the World Wars.

Inflation and Deflation. In this book the terms "inflation" and "deflation" will be used only to designate the direction in which the price level is moving. They will not indicate the causes of these movements. Any period in which the price level is rising, whether the change is secular, cyclical, or irregular, is a period of inflation. Conversely, any period in which the price level is falling is a period of deflation.

CONSEQUENCES OF CHANGES IN THE VALUE OF MONEY

There is not complete agreement among economists as to whether it would be desirable to have an absolutely fixed general level of prices, but none would deny that changes in the price level have an important effect both upon the economic community as a whole and upon the various economic classes of which it is composed. Price level changes alter greatly the distribution of wealth and income and the volume of production.

Effects on the Distribution of Wealth and Income.

If all prices—including prices paid for the uses or services of the agents of production—moved in the same direction and at exactly the same rate, changes in the general price level would not alter the distribution of wealth and income. But because some prices are free to vary while others are hindered by custom, by contract, or by other factors, individual prices move at very different rates. Some change quickly and sharply; others move but slowly.

For example, interest payments on bonds and mortgages are fixed by contract for long periods of time. If the general level of prices is rising, creditors find that although they receive the same number of dollars, each dollar will buy a smaller quantity of goods and services. This in effect transfers real income from creditors to debtors. Similarly, if bonds or mortgages mature and are paid off when prices are higher than they were when the money was borrowed, creditors suffer a loss in the real value (or purchasing power) of their capital, and debtors gain. The same kind of loss is incurred by receivers of rents, holders of life insurance policies, depositors in savings banks, and all other individuals to whom fixed payments in dollars are owed by others.

In periods of falling prices, debtors lose and creditors usually gain; a decline in the price level causes a larger share of the national real income to be transferred to creditors. But, as will be shown in a moment, the national real income sometimes declines so much in a period of falling prices that many creditors are paid only in part and some not at all. To the extent that in-

dividuals are both debtors and creditors, the gains and losses may cancel out. But there are many people who are so predominantly either the one or the other that great undeserved losses and gains result.

Although wages are seldom fixed by long-term contract, they usually change much more slowly than the prices of the things that they are used to buy. During a period of inflation, such as occurred from 1914 to 1920, wages are seldom increased rapidly enough to prevent a reduction in real income. In other words, wage increases lag behind price increases. In periods of deflation, wages do not fall as rapidly as the prices of the things they are used to buy. Workers who retain full-time employment receive higher real wages. But workers who are partially or completely unemployed, and they are usually numerous in such a period, do not share this gain.

Effects on Production. Changes in the general level of prices exert a powerful effect on production. The extent of economic activity depends largely upon the prospects for profits. When prospective profits are large, business is active, and production is likely to be at a high level. When prospective profits are small, or disappear altogether for most business enterprises, unemployment is likely to increase and the volume of production to fall.

When the price level is rising, business profits usually increase. This results from the fact that commodity prices ordinarily move up more rapidly than do their costs of production. Many of the expenses of the enterpriser, such as wages, rents, and interest on debt, in-

crease very slowly. So long as costs lag behind the increase in prices, the profits of the enterprise are increased. In general, therefore, an upward movement of the price level is favorable to an increase in the volume of production.

When the price level is declining, production and employment also tend to decline. Just as interest costs and wages lag behind commodity prices in inflation, they also lag behind in deflation. The fall in commodity prices relative to costs narrows profit margins and causes many enterprisers to incur losses rather than gains. In these circumstances many enterprisers will either curtail production or shut down their plants completely.

Paradoxical as it may seem, periods when money is increasing in value, that is, periods of falling prices, are likely to be periods of grave economic distress and hardship, with unemployment rife, and with the productive equipment, that could produce the goods so badly needed by the community, standing idle. This is almost certain to happen if prices decline without a corresponding increase in the productivity or efficiency of industry.

But it must not be assumed that the attainment of a stable price level, even if that were possible, would always and necessarily prevent economic unbalance. If the monetary system is controlled in such a way as to stabilize prices while the productive efficiency of industry is increasing and while the return to the factors of production (labor, capital, and natural resources) is not increasing correspondingly, the result may be disastrous. The cost of production per unit of output will

decline while the selling price of each unit of output remains at its previous level. The result will be a widening margin of profit between costs and selling prices, and a tendency for enterprisers to expand productive facilities to reap the higher returns. This may lead to an over-expansion of plant capacity in many lines and finally to a pressure toward drastic price reductions that cannot be resisted. Many believe that this was an important factor in the 1930-1933 depression. Thus it is argued that price control by large business enterprises, and the efforts of the federal reserve system to control the volume of money in such a manner as to keep prices stable, prevented a price decline that should have been allowed to occur. The result was the development of an acute disequilibrium among wages, prices, and profits that culminated in the depression. Though this argument may have some validity, it cannot be accepted as a full explanation of the causes of the depression following 1929. Other factors were of tremendous importance.

CHAPTER VIII

Equation of Exchange and the Quantity of Money

THE EQUATION OF EXCHANGE

THE measurement and consequences of changes in the value of money have just been discussed. This chapter will deal with the forces behind these changes.

A very useful device for summarizing and grouping these forces is the *equation of exchange*, which may be expressed as

$$MV = PT$$

The meanings of the factors of this equation are as follows:

- M is the total quantity of money in circulation. It includes all cash or currency in circulation and demand deposits subject to check.
- V is the velocity of circulation of the money represented by M ; it is the average number of times each unit of money is exchanged against goods and services during

a given period, say a year. It is evident that the amount of "money work" that can be accomplished by a given quantity of money, M , depends upon the number of times each unit of that money is offered for goods during the given period.

P is the general level of prices, or the average price of the things exchanged for money in the period. As has been mentioned, Snyder's index is an attempt to measure the variations of P .

T is the total volume of trade, or the total quantity of things exchanged for money in the period. It includes all kinds of goods, services, and securities bought with money. It should be noted that if a thing is exchanged for money several times during the period by wholesalers or speculators, T is correspondingly increased. The exchange of 10,000 bushels of wheat once or of 1000 bushels of wheat ten times would have the same effect upon T .¹

The equation of exchange is simply an algebraic expression of the truism that the amount of money paid for things by buyers is equal to the number of things sold multiplied by their prices. Since the total amount of money paid in exchange for things purchased must equal the number of things purchased multiplied by their average price, it must also be true that the total amount of money paid in exchange for things divided by

¹ In estimating T statistically the difficulty of adding diverse things that have no common unit of physical measurement is overcome by adopting a dollar's worth of each kind of thing in a base year as a unit of measurement. Quantities of things in subsequent periods are then expressed in units of a dollar's worth in these base years. These units can be added since they are all expressed in dollars. By comparing the sum total of dollar's-worth units in later years with the total in the base-year total it is possible to construct an index of T .

the number of things purchased must equal their average price. In other words, if $MV = PT$, then $\frac{MV}{T} = P$.

In this form the equation of exchange is an algebraic or symbolic expression of the generalization that *the general level of prices varies directly (and hence the value of money inversely) with the quantity and velocity of money in circulation relative to the total volume of trade.*

If the total amount of money spent, MV , in a given period increases more than T , the quantity of goods and services sold for money, the average price, P , of each unit of those goods and services must increase. Conversely, if the amount of money spent for goods and services in a given period declines more than does the physical volume of the goods and services purchased with money, the average price of each unit of T must fall.

It is now necessary to analyze each factor in the equation of exchange in order to ascertain why and under what conditions it varies.

THE QUANTITY OF MONEY, M

M has been defined as the quantity of money in circulation, including both currency and demand deposits. It is evident from the equation of exchange that any increase of M not offset by an increase in T or by a decrease in V must lead to an increase in the general price level, P . When the community has an increased supply

of money in relation to the volume of goods and services to be purchased with this money, it is but natural that each unit of money should be valued less highly — that the price level of goods and services should rise. On the other hand, any decrease of M not offset by a decrease of T or by an increase of V leads to a decrease in the level of prices, that is, to an increase in the value of money.

The immediate factors affecting the volume of money have already been discussed in Chapters IV and VI. In Chapter VI it was noted that the supply of funds available for use as cash in circulation and as member-bank reserves is equal to the total of federal reserve credit, the monetary gold stock, and Treasury currency minus the amounts locked up as cash in the Treasury vaults and as Treasury deposits at the federal reserve banks.² In Chapter IV it was found that the volume of demand deposits that can be supported by the available quantity of bank reserves depends upon the height of legal reserve requirements. The higher are the legal reserve requirements, the smaller is the volume of demand deposits that can be supported.

M AND THE SUPPLY OF GOLD

When a country is on the gold standard, and especially when its central bank does not attempt to control the quantity of money by its credit policy, variations in the size of the monetary gold stock account for the most important changes in the supply of cash for circulation and of commercial bank reserves.³

² Amounts absorbed as nonmember-bank deposits at the reserve banks and as "other federal reserve accounts" are ignored here.

³ See above, pp. 112–115.

When two or more countries are on the gold standard, their price levels in terms of gold (or the purchasing power of gold in each) must be approximately the same. If prices in terms of gold tend to be higher (or the purchasing power of gold lower) in one country than in others, gold will tend to be exported from that country to the others where it will buy more. This flow will continue until the discrepancy has been corrected. Conversely, any tendency for prices in terms of gold to be lower (for the purchasing power of gold to be higher) in one country than in others will lead to an import of gold to that country, and the discrepancies in price levels will again be largely eliminated. This point will be discussed in more detail later. For present purposes, it is enough to note that price levels in gold-standard countries must be roughly equal and that differentials are eliminated by international gold flows. Consequently, the monetary gold stock and the price level of one gold-standard country cannot be understood without reference to the situation in all gold-standard countries.

Changes in the monetary gold stocks of the world depend upon (1) the volume of gold production, and (2) the amount of gold that is absorbed in industrial or artistic uses.

The Production of Gold. In all countries except Russia gold production is carried on by business enterprises for profit. Gold is produced in so many sections of the world and by so many different producers that the industry operates under conditions approximating those of pure competition — no one producer can exert any appreciable influence on the price of gold. Con-

sequently, each producer tends to produce gold up to the point where his marginal cost is equal to the market price of gold.

The market price of gold presents one distinctive peculiarity; as long as countries are on the gold standard and buy all gold offered to them at a fixed mint price and also sell gold at a fixed price, the market price of gold cannot vary appreciably. It must hover close to the mint price. Only the cost of production can move. The principal causes of changes in the cost of production (shifts of the whole cost schedule) of gold are: (1) new discoveries of gold and exhaustion of low-cost ore deposits, (2) changes in methods of mining and refining gold, and (3) changes in the prices of productive agents—labor, machinery, and other productive facilities.

Throughout history, fortuitous discoveries of new gold deposits have exerted a great influence on the volume of gold production. When new low-cost gold deposits were discovered, a "gold rush" would follow, the production of gold would increase, and price levels would rise. Later, as low-cost ores were exhausted, gold production would decline. Then there would be a danger that gold production would lag behind the volume of trade, T , that the quantity of money, M , would therefore not be allowed to increase as fast as T , and that the price level, P , would fall.

The first important new discoveries of gold in the nineteenth century occurred in California in 1849 and in Australia in 1851. As a result, the annual production of gold increased more than threefold, and price levels

rose. From the 1870's until 1890, gold production lagged and was partially responsible for the downward trend of prices in that period. In the latter part of the century, however, gold production increased again, owing to new gold discoveries in South Africa and Alaska and to new methods of mining and of refining gold. The cyanide process of refining gold was an especially important factor in lowering its cost of production and in increasing the volume of its production. The trend of prices in gold-standard countries was upward after 1896.

Changes in the prices of the agents of production (labor, capital, and natural resources) exert an important effect on the cost of producing gold. These changes are likely to be especially important in periods when the general price level is changing. Wages and the cost of machinery usually rise when the general price level rises and fall when the price level falls. The increase of production costs while the price of gold remains fixed tends to restrict gold production in periods of rising prices. This restriction of gold production leads to smaller additions to monetary gold stocks and helps to check in some degree the increase of M and the rise of prices. In periods when the price level is declining, the decreased cost of producing gold tends to increase the volume of gold production. This increase of gold production brings about larger additions to the monetary gold stock, encourages the expansion of M , and helps to check the decline of prices.

It must be emphasized, however, that the inverse response of the amount of gold produced to changes in

the price level has been neither sufficiently great nor sufficiently rapid to prevent wide fluctuations in the general level of prices and in the value of money.⁴ There have been periods, nevertheless, in which the amount of gold produced has shown a marked response to changes in the general level of prices. For example, the decline in gold production during the latter part of the First World War and in the years following was largely the result of the high price levels at that time, which made it unprofitable to work low-grade ores. Even more striking is the great increase in gold production that took place, partly because of the low level of production costs, during the depression in the early 1930's. Gold production rose from 20 million ounces in 1929 to 36 million ounces in 1936. Throughout the depression it was at the highest level in history.

It should be noted, however, that in recent years the production of gold has also been greatly stimulated by the monetary policies of many countries. For example, when the dollar was devalued early in 1934, the mint price of gold was raised from \$20.67 an ounce to \$35 an ounce. This, of course, was a tremendous windfall for gold producers since it occurred at a time when

⁴ Generally speaking, there is a lag of several years before changes in the rate of gold production influence prices, and this tends to retard the adjustment of gold production to price changes. Moreover, there are other factors than gold production involved in the determination of the price level. Finally, highly dynamic factors, such as changes in the technique of gold production and the fortuitous discovery of new deposits of gold, have made adjustment difficult. Dynamic factors of this sort dominated the production of gold during the greater part of the nineteenth century and tended to obscure the effect of changes in the price level on the amount of gold produced.

mining costs were at a relatively low level because of the depression.

Monetary and Commodity Uses of Gold. The effect of gold production upon M depends not only upon the amount of gold produced, but also upon the relative amounts of gold used for monetary purposes on the one hand, and for industrial and artistic purposes on the other. The more gold that is used for filling teeth, and for watches, gold plate, and wedding rings, the less gold will be available for monetary purposes. Another important nonmonetary use of gold is as a store of value in Oriental countries such as India, where large amounts are absorbed into hoards and held for years; in fact, much of it disappears permanently. Since 1931, however, India has disgorged large amounts of gold from these hoards to take advantage of the large profits that could be made by converting gold into pounds sterling. When England abandoned the gold standard in 1931, the paper pound went to a heavy discount relative to gold, and a given number of ounces of gold could be converted into a greatly increased number of pounds. In consequence, many of the wealthy people with large hoards of gold, such as the native princes, converted gold into paper pounds and invested the proceeds.

• The evidence, on the whole, indicates that there is a tendency for the demand for gold for commodity uses to increase as its value falls (that is, as prices rise) and to decrease when its value rises (that is, as prices fall). If prices in general are rising, articles made largely of gold will be relatively cheap, since the price of the raw material from which they are made remains constant,

whereas the prices of other metals rise. This, together with the fact that people are more prosperous when prices are rising and have more to spend for luxuries, tends to increase the demand for gold for commodity uses. When the price level is falling, however, not only are money incomes reduced, but the prices of articles made from gold do not fall as rapidly as the prices of most other commodities, and the demand for gold for commodity uses is reduced. The demand for gold in the Orient shows similar fluctuations, usually rising as the value of gold falls, and vice versa.

The tendency of the demand for gold for industrial and artistic uses to increase as the price level rises reduces the amount of gold that becomes available for monetary uses and thereby acts as a force limiting the further advance of the price level. Similarly, the reduction in the demand for gold for industrial and artistic uses in periods of price declines tends to moderate the downward trend in the price level. The commodity demand for gold thus acts in harmony with the effects of price-level changes on gold production to exert a stabilizing influence on the value of gold and on the price level. These forces are, however, far too weak to adjust the gold stock in such a way as to stabilize the price levels in gold-standard countries.

Before the First World War, fluctuations of the world's monetary gold stocks were one of the most important factors determining the secular trend of prices in gold-standard countries. Since that War, other factors have been introduced that lessen somewhat the im-

portance of fluctuations in the volume of gold. Many countries have been on inconvertible paper standards much of the time. Some have reduced the weight of their monetary units. And virtually all have introduced a greater degree of central-bank control. The gold standard since the First World War has been more than ever before a deliberately managed standard.

*RATIO BETWEEN CURRENCY AND
DEMAND DEPOSITS*

The factors determining the total quantity of funds available for use either as cash in circulation or as member-bank reserves have been discussed. The amount of money of all kinds that can be supported by a given quantity of these funds depends to some extent, however, upon the habits of the community as to the use of cash and demand deposits. If the community insists upon using a large amount of cash relative to demand deposits, the total amount of money that can be supported by a given volume of funds available for use as either cash or bank reserves will be small. The large demand for cash will leave only a small volume of funds available for bank reserves, and the banks will have only a small reserve base on which to create a superstructure of demand deposits. If, on the other hand, the community is willing to hold a relatively small volume of cash and to use demand deposits for a large part of its payments, a smaller proportion of the funds available for use as either cash or bank reserves will be used as cash, and a larger proportion will

be available as bank reserves. These reserves will support demand deposits equal to several times their own quantity.

CURRENCY IN CIRCULATION AND DEMAND DEPOSITS⁵

1890-1934

(In Millions of Dollars)

ON OR ABOUT JUNE 30	CURRENCY*	DEMAND DEPOSITS	TOTAL	RATIO OF CUR- RENCY TO DEMAND DEPOSITS
1890	941	2,295	3,236	.410
1895	971	2,744	3,715	.354
1900	1,305	4,304	5,609	.303
1905	1,594	6,634	8,228	.240
1910	1,678	7,707	9,385	.218
1915	1,862	9,265	11,127	.201
1920	4,391	18,656	23,047	.235
1921	3,964	17,270	21,234	.229
1922	3,633	16,507	20,140	.220
1923	4,026	17,311	21,337	.232
1924	3,938	18,174	22,112	.217
1925	3,864	19,934	23,798	.194
1926	3,890	20,178	24,068	.193
1927	3,843	22,861	26,704	.168
1928	3,909	23,356	27,265	.167
1929	3,926	23,408	27,334	.168
1930	3,656	22,661	26,317	.161
1931	3,938	20,506	24,444	.192
1932	4,904	16,124	21,028	.304
1933	5,048	15,484	20,532	.326
1934	4,660	18,903	23,563	.247

* Does not include vault cash of banks.

Long-Term Trend. As indicated by the above table, there has been a marked downward trend in the ratio

⁵ Reproduced from Angell, J. W., *The Behavior of Money* (1936), p. 175, by permission of the publishers, McGraw-Hill Book Company. This book is a highly interesting study of the amount of currency and deposits, and their relationship to various indices of economic activity.

of currency in circulation to demand deposits. This reflects the increasing preference of the community for demand deposits as a means of payment. As long as this trend continues, the total volume of money that a given quantity of funds usable as either cash or bank reserves can support will be increased, for a smaller part of these funds will be used as cash in circulation and a larger part will be used as bank reserves, in which use it can support demand deposits amounting to several times its own quantity.

Cyclical Fluctuations. The ratio of currency in circulation to demand deposits also shows cyclical fluctuations. If no change in the public confidence in banks occurs, there is frequently a tendency for this ratio to rise in the later stages of prosperity when pay rolls and retail trade rise so much, and for it to decline in depression periods when pay rolls and retail trade fall off. But this tendency is reversed when the depression is accompanied by a general distrust of banks and a hoarding of cash. In the depression following 1929, currency in circulation increased while deposits were decreasing. As a result the currency-deposit ratio rose to levels that it had not attained since the turn of the century. This ratio reached a peak of .378 in April 1933.

This striking reversal of the currency-deposit ratio is the reflection of mistrust of banks during the worst years of the depression, and of consequent attempts to convert deposits into cash, accompanied in many cases by the hoarding of the cash thus obtained. This drain reduced bank reserves to an alarming degree, for bank reserves amount to only a small percentage of their

deposits. Thus if a bank has deposits of \$1,000,000 and reserves of \$100,000, or ten per cent, the conversion of \$50,000, or five per cent, of its deposits into cash will mean a reduction of fifty per cent in its reserves. In the face of a run of considerable proportions, bank failures may be numerous unless the member banks have a large amount of assets eligible for rediscount at their reserve banks.

Bank runs, together with the unsound condition of many banks, and the lack of paper eligible for rediscount, were responsible for many of the bank failures of the depression. The currency hoarding during the depression subjected the whole banking structure to severe strain. Currency in circulation increased from 3.9 billion dollars in 1929 to 5 billion dollars in 1933, while demand deposits declined from 23.4 billion dollars to 18.9 billion dollars.⁶ As a result, the currency-deposit ratio increased from seventeen per cent to thirty-three per cent. It is partly because they fear these runs that banks often reduce their loans and investments and thereby destroy deposits in depression periods.

Effects of the Second World War. During the period of recovery from the depression the currency-deposit ratio again showed a declining trend but this was sharply reversed as a result of the economic conditions brought about by the Second World War. Although both currency in circulation and deposits increased sharply during the war years, the increase in the former was relatively much greater. The effect on the currency-

⁶ Other factors, of course, were partly responsible for the decline in deposits, but the hoarding of cash was very important.

deposit ratio over this eight-year period is shown in the following table:

CURRENCY IN CIRCULATION AND DEMAND DEPOSITS ⁷

1939-1946

(In Millions of Dollars)

END OF JUNE	CURRENCY OUTSIDE BANKS	DEMAND DEPOSITS ADJUSTED	RATIO OF CURRENCY TO DEMAND DEPOSITS
1939	6.0	27.4	.219
1940	6.7	32.0	.209
1941	8.2	37.3	.220
1942	10.9	41.9	.260
1943	15.8	56.0	.282
1944	20.9	60.1	.348
1945	25.1	69.0	.364
1946*	26.1	77.4	.337

* End of April

Various reasons have been suggested for the marked shift in the currency-deposit ratio shown above. Probably the most important was the enormous increase in wages and salaries paid, particularly to the middle and lower income groups which do not ordinarily maintain checking accounts. There were also widespread population shifts during the War both on the part of civilians and members of the armed forces. This undoubtedly encouraged the use of currency in preference to deposit accounts. Some authorities also believed that the rise of "black markets", which are typically conducted on a currency basis, and attempts at tax evasion may have

⁷ As reported in the *Federal Reserve Bulletin*. This series is similar to that shown on page 156 above but is not strictly comparable because of the different basis on which the two series are compiled.

had a contributory effect. Although it appears unlikely that the currency-deposit ratio will remain at the high war time levels, sufficient time has not elapsed to give any definite indication that the ratio will return to the levels prevailing at the outbreak of the Second World War.

SUMMARY

The quantity of money, M , depends upon (1) the amount of funds available for use as either cash in circulation or bank reserves, (2) the ratio of bank reserves to demand deposits, and (3) the habits of the community as to the relative amounts of cash and demand deposits used.

In the long run, or in the *secular* trend, M is likely to increase in about the same proportion as, or a little faster than the volume of funds available for use as cash and bank reserves. This is true because in the long run banks tend to lend up to the limit of their reserves so that, in absence of changes in legal reserve requirements, the ratio between bank reserves and demand deposits will remain approximately constant. Also, the trend toward a greater use of demand deposits, rather than cash, as a medium of payments is likely to continue, so that a larger proportion of the funds available for use as cash in circulation or as member-bank reserves can be used for the latter purpose. It is this tendency of the community to effect an increasingly large proportion of its payments with checks drawn on demand deposits rather than with cash that may permit M to increase faster in the long run than the total

volume of funds available for use as cash or bank reserves.

The relation between M and the volume of funds available for use as cash in circulation and as bank reserves is likely to show rather wide *cyclical* fluctuations. In the first place, banks usually lend up to the limit of their reserves in prosperity periods, but they sometimes allow excess reserves to accumulate in periods of depression. This increases the volume of demand deposits supported by each dollar of reserves in prosperity periods and decreases it in depression periods. Therefore, demand deposits may increase in periods of prosperity and decline in periods of depression even if no change occurs in the volume of bank reserves. In the second place, the hoarding of cash by bank depositors in periods of serious depression tends to increase the ratio of cash in circulation to demand deposits. This decreases bank reserves, forces the banks to destroy some of their demand deposits, and reduces the volume of M that can be supported by a given quantity of funds available for use as either cash in circulation or member-bank reserves.

Since M is so highly dependent upon the lending and investing activities of banks, it usually increases in periods of prosperity and declines in periods of depression.

C H A P T E R I X

Velocity of Money and the Volume of Trade

VELOCITY OF MONEY

THE amount of money offered in exchange for goods is determined not only by M , the quantity of money in circulation, but also by V , the average number of times that the quantity of money is used in making purchases during a given period.

MONEY BALANCES

The factors that determine the velocity of circulation of money are in general the forces that influence individual choices as to the size of the average balances of cash or demand deposits that people wish to hold relative to their expenditures. This can be phrased differently; although it comes to the same thing, by saying that V is determined by how long, on the average, money is held as a store of value before being offered

in exchange for the things people wish to purchase. It is true that M determines what the total of money balances shall be, but other factors determine how often this money is used as a medium of payments. If people are accustomed to holding money for comparatively long intervals before spending it, money will circulate slowly, and the fraction of the total stock of money that is offered in exchange for goods on a given day will be relatively small. On the other hand, if people are accustomed to spending money after holding it for only a very brief time, money will circulate more rapidly, and on any given day the fraction of the total stock of money changing hands in purchases will be much higher. Thus, with a given stock of money, a low velocity of circulation will mean that prices will be lower than they would be if the velocity of circulation were higher.

Effect on Velocity. People seldom rush out and spend all the money that they receive immediately after it comes into their hands. Partly as a matter of convenience in spreading purchases over the intervals between the receipts of income, and partly to have on hand a reserve against unforeseen contingencies, most people keep on hand a certain amount of money in the form of either currency or demand deposits. Money so held may be called "money balances." For example, suppose that A is paid \$100 a month, and that he spends this sum evenly at the rate of \$3.33 per day. His money balance would vary from \$100 on the first day to \$0 on the last, but his average daily balance would be about \$50. The days on which he held more than this amount

would be counterbalanced by the days on which he held less.

The fact that A spends his income at this rate means that the average velocity of circulation of money passing through his hands is twice a month, or twenty-four times a year. That is, his annual expenditures are $12 \times \$100$, or $\$1,200$, and this divided by $\$50$, the average size of his money balance, is 24. Looked at from another point of view, it can be said that on the average A holds money for about half a month, or two weeks, before spending it. If A were paid by the week his average balance would be smaller, and the rate of turnover or velocity of circulation of money passing through his hands would be much higher. If he were paid $\$25$ every week, and spent his money evenly over the week, his average daily balance would be $\$12.50$, and the velocity of circulation of money passing through his hands would be twice a week instead of twice a month as under the original assumption. This would be because money would, on the average, be held for only half a week before being spent, instead of half a month.

Returning again to the original assumption, that A is paid $\$100$ a month, suppose that, instead of spending his money entirely in the course of a month, A decides that he will never hold less than $\$25$ in his money balance. This would mean that his money balance would fluctuate between $\$125$ and $\$25$ and that it would, on the average, amount to about $\$75$ instead of $\$50$ as under the original assumptions. Under these conditions, the velocity of circulation of money passing through his hands would be approximately sixteen times a year

(that is, \$1,200/\$75) instead of twenty-four. On the average he would hold money a little over three weeks instead of two weeks before spending it.

Since business enterprises also hold money balances, V is the resultant not only of the monetary habits of individuals as spenders of incomes, but also of the monetary habits of the managers of business enterprises as to the amount of money balances that they maintain relative to their total expenditures.

LONG-RUN FACTORS AFFECTING V

The longer that money is held between the times that it is used as a medium of payments, the lower is its velocity of circulation. The velocity of circulation of money is, therefore, somewhat lower in a community that accumulates savings in the form of hoarded money than it is in a community with highly developed credit instruments and credit institutions. In communities of the latter type, people tend to invest a large part of their savings in goods, or securities, or deposits in savings banks, thereby permitting money to be circulated as a medium of payments rather than held as a store of value. Moreover, the ease of borrowing in such a community ordinarily makes unnecessary the accumulation of large hoards of money to meet contingencies. For these reasons, the development of financial institutions has been a steady force operating to raise V .

Another factor that tends to make for a high V is greater frequency of wage and salary payments. As has been pointed out, the hypothetical individual A

had a much lower money balance when paid by the week instead of by the month. Other factors that tend to increase V are greater ease of access to markets which, in turn, is enhanced by better transportation facilities, the concentration of population in market areas such as cities and, in general, any conditions that tend to result in spreading income receipts and expenditures more evenly over time.

A farming community that is distant from markets, that has scant banking facilities, and that receives a major part of its income in one season of the year when crops are harvested, usually makes its purchases at infrequent intervals. On the average, therefore, people in such a community hold money for a relatively long time before spending it, and the velocity of circulation of their money is relatively low. In contrast, the velocity of money is relatively high in an industrial community in which workers are paid by the week, and in which they spend their incomes fairly evenly from day to day. Broadly speaking, it can be said that the general level of V is set by habit and custom and by the stage of development of the community's economic and financial institutions. Changes in these institutions and in the progress of the community from an agricultural economy to an industrial and trading economy tend to affect V .

SHORT-RUN FACTORS AFFECTING V

The above factors affecting V tend to determine its long-run trend. There are many other factors that affect V and cause it to undergo very pronounced short-time

fluctuations, both from month to month and from year to year. These factors, in part, center around business activity; that is, the general state of activity in production, wholesale trade, and the security and commodity exchanges. In periods of increasing business activity, V rises as people draw on their money balances to make payments. In periods of declining business activity, V declines as money is left idle for longer intervals.

CHANGES IN V AND CHANGES IN P

Changes Accompanying Decline in V . During the downswing of a business cycle, many individuals who have a margin of income over what they regard as essential to the maintenance of their minimum standard of living increase the relative amount of their resources that they hold in the form of money. To increase their money balances they may reduce their expenditures below their money income, they may "hoard" money that they would ordinarily use to purchase securities or other assets, and they may throw some of their securities or other assets on the market in exchange for money. This "hoarding" of money sometimes occurs because the future appears highly uncertain and people feel that the possession of a larger reserve of purchasing power in the form of money will increase their security. In part, however, it occurs because of the belief that goods and securities are going to fall farther in price and that the thing to do, therefore, is to hold money until prices reach bottom, that is, until money reaches its maximum value. The desire to ac-

accumulate larger money balances may influence not only individuals but also the managers of business enterprises who wish to put their businesses in a strong cash position, particularly in view of the difficulty of borrowing during depressions.

The result of this general movement, as was pointed out in Chapter I, is essentially a type of hoarding; people use more money as a store of value and less as a medium of payments. Total expenditures decline, the money receipts of sellers of goods and services fall off correspondingly, and the deflationary effects permeate the whole economy. This reduction of total expenditures appears to most industries as a reduction of the demand—in the sense of a negative shift of the demand schedule—for their products. One result is a decline in the prices of their products. And unless their schedule of marginal costs falls by an equal amount—which is highly unlikely since costs usually do not fall as fast as selling prices—there will also occur a curtailment of the volume of production and of T . However, the chances that T will fall as rapidly as V are very small.

During the downswing of a cycle there is often a reduction in M as well as in V , but the reduction of V is usually by far the greater. In the 1930–1933 depression, which, because of the banking difficulties that accompanied it, probably involved as great a reduction in M as any depression we have experienced, M decreased about thirty per cent as against a decrease of over fifty per cent in V . This meant that although there was a decrease of only thirty per cent in M , the amount of

money offered in exchange for goods and services, MV , decreased sixty-five per cent.

Changes Accompanying Increase in V . On the upswing of the business cycle, V tends to increase more than T and is an important factor in the rise of prices that takes place. Just as people increase their money balances relative to expenditures during the downswing of the cycle, they decreased these balances relative to expenditures during the upswing. As the future appears brighter and as the feeling spreads that securities and other assets may rise in price and at least will not decline—that the value of money may fall—there develops a desire to get rid of money quickly and to hold other assets instead. This rise in the velocity of circulation increases total money expenditures and enhances the demand for goods. As demand increases, the volume of production and also T are likely to rise, but not as much as V . The lag of T behind V is likely to be especially noticeable in the later stages of prosperity, when unemployment and unused plant capacity have been largely absorbed and when there may be an increase in the speculative hoarding of goods.

Extreme Fluctuations in V . A striking example of the heights to which V can rise is afforded by the inflation in Germany following the First World War. At that time prices rose much more rapidly and to a greater degree than could be explained by the increase in M . Between July 1919 and July 1923 the index of currency in circulation increased to 723,000 from 690, or a little more than 1000 times, while the price

index increased from 339 to 18,351,000, or a little more than 54,000 times. V , however, was estimated to have risen from 49 to 2,538, or about fiftyfold, which together with the increase in M , accounts for the tremendous inflation of prices.¹ As inflation progressed, everyone tried to get rid of money as fast as possible; no one wished to leave any of his resources tied up in money which was depreciating hourly. All wished to hold goods or stocks which were rising in price, rather than money which was depreciating. It is related that German workers were often met at the factory gates by members of their families who sped to market on bicycles in order to spend the weekly wage before it could lose more of its purchasing power. Similarly, shopkeepers rushed out and tried to replenish their inventories before the money depreciated further. This situation meant that very little money was held idle in money balances. In this period in Germany, V must often have been as great during a week as it was during a year in other countries.

ESTIMATES OF V FOR THE UNITED STATES

Although there are no adequate statistical estimates of V for the currency part of M in this country, there are fairly accurate figures for the V of demand deposits. Since the latter effect the payments for over ninety per cent of our trade, while they normally amount to a little over eighty per cent of M , it is ap-

¹ Graham, F. D., *Exchange, Prices, and Production in Hyper-Inflation in Germany* (1930), pp. 105-106

parent that demand deposits must have a higher velocity than currency. The velocity of demand deposits may be calculated from the federal reserve statistics showing the amount of demand deposits and the amount of checks drawn against them, or "debits" to individual accounts. The debits to individual accounts during a period of time, divided by the average amount of demand deposits during that time, will give the V of demand deposits. The velocity of circulation of demand deposits is shown in the following table. The velocity figures are shown separately for New York City and for 140 other cities because the New York City figures are so largely dominated by financial transactions.²

ANNUAL AVERAGE VELOCITY OF DEMAND DEPOSITS

1919-1935

YEAR	140 CITIES	NEW YORK CITY
1919	34.4	54.3
1920	35.8	52.4
1921	31.4	50.2
1922	30.8	55.0
1923	32.4	56.3
1924	31.5	55.0
1925	32.7	61.7
1926	33.9	67.1
1927	35.0	74.9
1928	37.9	93.5
1929	41.6	111.9
1930	34.9	69.5
1931	28.8	46.2
1932	25.4	33.1
1933	24.9	30.3
1934	22.7	27.8

² From Kemmerer, F. W., *Money* (1935), pp. 52-53. By permission of the Macmillan Company, publishers.

The fact that the V for New York deposits is regularly above that for the rest of the country is largely explained by the fact that demand deposits used for effecting payments in the financial markets have an unusually high rate of turnover. Financial transactions also affect the V in other cities, but usually not to the same extent that they do in New York City.

THE VOLUME OF TRADE, T

T has been defined as the physical volume of trade, or the total quantity of all the things exchanged for money in a given period. The most important components of T are goods, services, and securities. Each article is counted in T every time it is sold for money. For example, if 10,000 tons of coal were sold by a mining company to a jobber, who resold it to a wholesaler, who resold it to a retailer, who in turn sold it to its ultimate consumer, the coal would be counted in T each time it was exchanged for money. The same would be true of a security that was exchanged for money several times in a given period. The volume of T therefore depends on (1) the quantity of goods, services, and securities available for sale, and (2) the number of times that each unit of these things is sold for money in a given period.

If, in any period, the volume of things offered in exchange for money increases in relation to the amount of money offered for them, the average price of each unit of these things must decline. Conversely, if the

volume of things offered for money becomes smaller in relation to the amount of money offered for them, their average price per unit must rise.

LONG-RUN FORCES AFFECTING T

In the long run, or the secular trend, T may be expected to increase, especially in a developing country such as the United States. In the first place, the quantity of things in existence that can be exchanged for money increases. As time passes, there are more houses, securities, and other things that were created in preceding periods and that may be sold for money. But what is perhaps more important, the volume of current production increases as the size of the working population grows, as workers achieve greater skill, as larger supplies of capital equipment are accumulated, and as new inventions and new methods of organization enable the agents of production to be used with greater efficiency. Increased specialization, especially increased specialization of business enterprises, increases T in two ways: by enhancing the volume of production, and by increasing the number of times each article is sold for money between the time it first begins to emerge as a raw material and the time it finally reaches its ultimate consumer. For example, when most vegetables were produced in the locality in which they were consumed, the farmers sold them to a retailer who sold them to the consumer. Under these conditions, vegetables entered into T only twice. But as specialization increased, farmers in a particular locality produced enough of one type of vegetable to supply the demand

for it over a wide area. Then, instead of selling directly to the retailer, they sold to jobbers, who sold to wholesalers, who sold to retailers, who sold to consumers. In this case, the goods were sold for money four times and entered into T each time.

On the other hand, an integration of production and distribution into great vertical combinations that unite in one firm a number of the stages of production — such as mining, manufacturing, wholesaling, and retailing — tends to reduce T , or, more accurately, to diminish the increase of T by decreasing the number of times an article is sold for money before it reaches its ultimate consumer.

The development of speculation in commodities and securities in the great trading and financial centers also tends to increase T , by increasing the number of times that these things are bought and sold. Such speculative activities do not, however, require the use of a proportionately great amount of money, for most organized commodity and stock exchanges operate “clearing systems” that enable professional speculators to “clear” purchases and sales against each other and to pay in money only relatively small net balances. For example, suppose that a speculator should sell \$500,000 worth of securities and should purchase \$550,000 worth of securities through an organized stock exchange on a given day. He would not collect \$500,000 in money and pay out \$550,000 in money; instead, he would merely pay the balance of \$50,000. In effect, he would barter securities for securities, except for the small amount paid for with money. The same type of clear-

ing occurs between the brokers and dealers who are members of organized commodity and stock exchanges.

Despite vertical combinations in industry and the development of more efficient clearing systems in connection with organized stock and commodity markets, T is almost certain to show an upward secular trend.

CYCLICAL FLUCTUATION OF T

The physical volume of trade undergoes frequent, and sometimes wide, cyclical fluctuations; it increases in periods of recovery and prosperity, and it decreases in periods of recession and depression. These short-run cyclical fluctuations are largely traceable to variations in the volume of production and in the amount of commodity and security speculation.

In periods of recovery and prosperity, when business profits are rising, employers increase the number of men employed, they utilize existing plant capacity more fully, and they make large additions to productive capacity. As a result, the volume of goods and services to be sold for money increases. At the same time, speculation in commodities and securities rises. All these developments increase T .

In periods of recession and depression, on the other hand, business profits fall, employers discharge workers, they utilize existing plants less fully, and they make fewer additions to plant capacity. As a result, the volume of production declines. At the same time, speculative activity in commodities and securities usually declines. All these developments decrease T .

In all periods of the cycle, however, changes in the physical volume of trade lag behind changes in the amount of money offered for goods, services, and securities. In periods of recovery and prosperity, T usually increases less rapidly than does the amount of money spent, especially in the latter part of the prosperity period when the labor supply and plant capacity are almost fully utilized, and the price level usually rises. In periods of recession and depression, T declines less rapidly than the volume of money expenditure, and the price level falls.

DETERMINATION OF THE GENERAL PRICE LEVEL

The behavior of each factor in the equation of exchange, which may be stated either as $MV = PT$ or as $\frac{MV}{T} = P$, has been described. It is the purpose of this section to show the interrelationships of these factors, and especially the relationships of the other factors to the general price level, P .

Secular Trends. Over a long period of years, T , the physical volume of things exchanged for money in each period, shows a pronounced upward trend. This is especially true for the United States, owing largely to the growth of population, new inventions, greater specialization, and increased speculation in commodities and securities. When this increase of T is not accompanied by a corresponding increase of the volume

of money offered for goods, services, and securities, the general price level shows a downward secular trend. The velocity of circulation of money also shows a slight upward trend, owing to the general long-run tendency to hold more goods and securities and less money as a store of value, to the greater frequency of wage payments, and to the greater speed of transportation and communication. But this upward trend of the velocity of circulation is usually not nearly as pronounced as the upward trend of T . Therefore, it cannot by itself increase the amount of money expenditure sufficiently to prevent the general level of prices from showing a downward secular trend. If this downward trend of prices is not to occur, the quantity of money, M , must be increased enough so that its increase, together with the increase of V , will be as great as the secular rise of T . But if the combined increase of the quantity of money and of V is greater than the increase of T , the general price level will show an upward secular trend.

Cyclical Fluctuations. During the various phases of the business cycles, all the factors in the equation of exchange fluctuate, though some change more than others. In periods of prosperity, the quantity of money, especially the quantity of demand deposits, usually increases. The velocity of circulation of money also rises, as people hold less money as a store of value to meet contingencies and as they attempt to get rid of money before its purchasing power declines. Both the rise of M and the rise of V increase the volume of money expenditures. At the same time, T rises as business

profits increase and as commodity and security speculation grows. But the rise of T is not likely to be as great as the combined rise of MV , so that the general price level is likely to rise. In fact, the rise of T is sometimes not as great as the rise of V , so that in periods of prosperity the general price level sometimes rises more than does the quantity of money.

In periods of recession and depression, all the factors in the equation of exchange fall. The quantity of money, and especially the quantity of demand deposits, decreases. V also declines, usually more than does the quantity of money, as people spend money less rapidly. T declines as business profits decline and as speculative activity subsides, but the decline of T is not as great as the decline of money expenditures traceable to the combined fall of M and V . Under these conditions, the general price level declines, often by a greater percentage than the decline of M .

C H A P T E R X

The International Gold Standard

THE discussion so far has considered money from the point of view of a single country. The present chapter will be concerned largely with international monetary relationships. The first part will describe the essential characteristics of the gold standard; the second will deal with the international aspects of the gold standard.

· VARIOUS FORMS OF THE GOLD STANDARD

The international gold standard is not an old institution. Before the latter part of the nineteenth century most of the countries of the world were on either a silver standard or a bimetallic standard. Under the latter, the monetary system was based upon both gold

and silver. Great Britain took the lead in establishing the gold standard in 1817. By the end of the nineteenth century her lead had been followed by most of the important countries of the world, and the gold standard then became truly an international standard. The record of the gold standard since 1914 has been a checkered one. It was almost universally abandoned during the First World War. By 1928 it was again in operation in a modified form in most countries, but the depression following 1929 brought about a new wave of defections from it. The Second World War and its economic dislocations would doubtless have forced most countries off the gold standard if they had not already abandoned it as a result of the depression. In the circumstances there is little reason to believe that the gold standard will ever regain the supremacy it enjoyed in the late nineteenth and early twentieth centuries. An understanding of the characteristics of the gold standard and of the manner in which it operated during its heyday is, nevertheless, essential to the comprehension of many of the controversies over monetary policy.

Characteristics of the Gold Standard. There are three essential characteristics of the gold standard:

(1) The value of the standard monetary unit must be kept equal to (or on a parity with) the value of a defined weight of gold. This is accomplished by providing for a ready conversion of gold into money and of money into gold at a fixed price.

(2) All types of money in the country must be kept on a parity with gold. This is accomplished by maintaining free interconvertibility between gold and all types of money in the country.

(3) There must be free import and free export of gold.¹ When this is the case, a country's monetary unit has virtually a fixed value in terms of the monetary units of other countries on the gold standard.

THE GOLD-COIN STANDARD

The type of gold standard most common before the First World War was the *gold-coin* standard. In many countries, as in the United States, very little gold coin was actually used for hand-to-hand circulation. The essential point, however, was that it *could* be used if people desired it. Under this standard, the mint stood ready to buy and to sell gold at a fixed price. Thus in the United States before 1933, the mint would issue one dollar in coin or gold certificates for every 23.22 grains of fine gold brought to it; or, what is the same thing, it would buy all gold offered to it at \$20.67 per fine ounce and would issue coins or gold certificates in payment. It would also pay out 23.22 grains of fine gold for every dollar paid in to it. As a result of this two-way convertibility, the monetary value or purchasing power of the dollar was kept equal to the market value of the gold bullion contained in the dollar. Gold coins were full-bodied money.²

Under the gold standard all other types of money

¹ Some economists would add a fourth characteristic for the "automatic" gold standard; namely, under the automatic gold standard reserve requirements must be fixed by either law or custom so that, except for seasonal or emergency fluctuations, the total quantity of money will tend to vary proportionately with the amount of monetary gold stocks. Under the so-called "managed" gold standard, this fixed ratio between monetary gold stocks and the total quantity of money may not be maintained. However, as long as the monetary unit and a fixed amount of gold are kept at a parity with one another, most economists would agree that a gold standard exists.

² Cf. Chapter II, pp. 39-41.

in circulation in the country must be kept on a parity with gold. This is usually accomplished by providing for two-way convertibility of gold into other money and of other money into gold. In the United States under the gold-coin standard, other types of cash could not depreciate in terms of gold, for the Treasury would always redeem them at par in gold. And they could not appreciate in terms of gold, for the Treasury would always give gold for other types of money. Demand deposits could not depreciate in terms of gold, for in order to remain solvent the commercial banks had to stand ready to convert their deposits into legal tender money, which, in turn, was converted into gold.

Export and Import of Gold. It is also essential to the operation of the gold-coin standard that gold be freely imported and exported. If this is permitted, the price levels in all gold-standard countries must be approximately equal. Discrepancies will be corrected by international gold flows. If free import and export are not permitted, these discrepancies cannot be corrected and price levels of different countries may deviate widely from each other. This matter will be discussed more fully when the nature and effects of international gold flows are considered.

THE GOLD-BULLION STANDARD

The gold-bullion standard has come into prominence since the First World War. Under it, gold coin is not used in hand-to-hand circulation, but the currency is

nevertheless maintained at a parity with gold, for all the essential characteristics of the gold standard are present. The government or its agents buys and sells gold at a fixed price and permits the free import and export of gold.³ But the gold that the government will sell for currency is in the form of gold bars, which are usually of substantial size and value. For example, under the gold-bullion standard of the United Kingdom from 1925 to 1931, Bank of England notes were redeemed in gold bars weighing 400 ounces and worth about \$8000. Since other kinds of currency could be converted into Bank of England notes at face value, this was sufficient to maintain the parity in value between the various kinds of currency and the gold content of the pound.

The essential purpose of the gold-bullion standard, as contrasted with a gold-coin standard, is to "economize" on the use of gold. Thus, after the war, England did not have enough gold to permit its use for hand-to-hand circulation. But if gold was impounded in the central bank and used exclusively as a reserve, a given amount of monetary gold would support a much larger volume of money. The gold-bullion standard is also supposed to prevent the hoarding of gold in small and scattered amounts. However, when France had a gold-bullion standard, the French people found it possible to circumvent this by clubbing together in groups to purchase gold bars, which were then subdivided according to the contribution of each individual toward the purchase price.

³ See Chapter VI, page 112, for a description of the gold-bullion standard in the United States.

THE GOLD-EXCHANGE STANDARD

The gold-exchange standard is also essentially a device for economizing on the use of monetary gold. Under this type of standard, a country does not itself hold gold reserves with which to redeem its money. Instead, it keeps its money convertible, at a fixed rate, into bank deposits that are held in some other country maintaining a gold-coin or a gold-bullion standard. The gold-exchange-standard country redeems its money at a fixed rate in drafts on these deposits. It also issues money at a fixed rate in exchange for deposits in the country where the "reserve" is maintained. Since the money of the country on the gold-exchange standard is convertible into deposits that, in turn, are convertible into gold, the value of the money is fixed in terms of gold.

For example, the Philippine Islands operated a gold-standard system in which monetary reserves consisted for the most part of deposits in commercial banks in the United States. The monetary circulation of the Islands, aside from a limited amount of bank notes, consisted of silver token coins and of representative silver certificates. This currency was maintained at a parity with gold by free redemption in drafts, or "gold exchange", that is, in claims on deposits in American banks. Anyone who presented Philippine currency in sums of not less than a certain minimum could purchase from the Philippine Treasury, at a fixed rate of two Philippine pesos to the dollar, drafts on the Treasury's deposits in the United States. Conversely, the

Philippine Government would pay out at the fixed rate of two pesos for every dollar so deposited silver pesos or silver certificates in Manila in exchange for deposits to its credit in New York. The only charge for these drafts was a small premium which represented the costs that would have been incurred had gold actually been shipped in place of using drafts or gold exchange. Before the United States devalued the dollar, this system operated in such a manner as to keep the peso at a parity with 12.9 grains of gold, .900 fine, or precisely half the American gold dollar. Since the devaluation of the dollar, the peso has been maintained at a parity with half the gold content of the dollar as devalued, that is, half of 15 $\frac{5}{21}$ grains of gold, .900 fine.

The principal advantage of a gold-exchange standard is that it enables a country to use inexpensive paper or token money for domestic payments and yet to keep this money at a fixed value in terms of gold. It need not hold any large and expensive gold reserve, and it usually receives interest on its deposits held abroad.

It is evident that the gold-exchange standard is a true gold standard so long as there is free interconvertibility between money and gold, even though gold exchange is the intermediary step between gold and money. It is necessary, however, for the country in which the bank deposits are held to maintain a gold standard with free import and free export of gold, otherwise there would not be free interconvertibility of money and gold. When the United States temporarily abandoned the gold standard in 1933 the Philippine

monetary system was automatically shifted from a gold-exchange to a dollar-exchange standard. It may be noted that the Philippine currency system is a pure gold-exchange standard; that is, the only form of redemption is in gold exchange. Many countries, however, have operated qualified gold-exchange standards, in which redemption may be in gold exchange or gold bullion, at the option of the treasury or central bank, or at the option of those wishing to convert money into gold.

THE GOLD STANDARD AN INTERNATIONAL STANDARD

As a result of these various arrangements whereby each of a number of countries maintains its money at a parity in value with a fixed amount of gold in a free gold market, the price levels of gold-standard countries are held in equilibrium with one another; that is, in all gold-standard countries the prices of internationally traded goods, making due allowances for transportation costs and tariffs, tend to be nearly the same. This follows because of the fact that the various monetary units are freely convertible into a fixed amount of gold, and that gold is allowed to flow from country to country seeking the best market. Moreover, from the gold-standard system it follows that *exchange-rate* fluctuations between gold-standard countries are held to very narrow limits. But before discussing this matter at length, it is necessary to inquire into the nature of *foreign exchange* and *foreign-exchange rates*.

FOREIGN EXCHANGE

Despite wars, depressions and increased governmental regulation of international economic relations, international commercial and financial transactions still amount to billions of dollars every year. Residents of the United States must pay to persons in foreign countries great sums to cover the costs of goods, services, and securities purchased abroad, to repay loans, and for other purposes. Since foreigners usually wish to be paid in their own moneys rather than in dollars, the residents of the United States must purchase foreign moneys with dollars. Similarly, foreigners must make large payments to residents of the United States to cover the cost of goods, services, and securities purchased here, to repay loans, and so forth. Since residents of the United States require payments in dollars, the foreigners must purchase dollars with their respective moneys.

These exchanges of the money of one country for the money of another, or more accurately, the exchange of claims against the money of one country for claims against the money of another, are called *foreign-exchange* transactions. The market in which these exchanges of moneys, or of claims against moneys, occur is called the foreign-exchange market. And in any one country, the moneys of other countries—or claims against the moneys of other countries—are popularly referred to as *foreign exchange*. To designate claims on the money of a particular country, the word “ex-

change" preceded by the name of the country's monetary unit is used. Thus, claims on the money of France are "franc exchange"; claims on the money of Germany are "mark exchange"; and claims on the money of England are "sterling exchange" (from pound sterling).

THE FOREIGN-EXCHANGE MECHANISM

If all countries were on the gold standard, it would be possible to make all international payments by shipping gold back and forth between individuals and enterprises. This, however, would not only be cumbersome and expensive, but it would lead to the anomalous situation of liners carrying gold destined for Europe passing in mid-ocean liners carrying gold destined for the United States. Much of the monetary gold of the world which now reposes snugly in vaults would be treated to frequent and somewhat pointless ocean voyages.

By the use of *foreign exchange*, debts between residents of different countries are canceled, or offset, and most international payments are effected without the cumbersome and expensive shipment of precious metals. Just as payments in domestic transactions are usually made by checks, payments in international transactions are usually made by drafts, or bills of exchange.⁴ The foreign-exchange mechanism permits the Americans owing payments to foreigners to pay the Americans who are owed by foreigners. Conversely, of course,

⁴ For a description of drafts, or bills of exchange, see Chapter III, page 62.

this same mechanism permits foreigners who have claims against Americans to be paid by those foreigners against whom Americans have claims. This is illustrated in Figure A.⁵ Gold is shipped only to pay debts which cannot be canceled or offset against other debts.



FIGURE A

PAYMENT MADE BY FOREIGN EXCHANGE

The following section describes verbally how bills of exchange are used to effect international payments. The same thing is shown graphically in Figure B.

FINANCING AMERICAN EXPORTS AND
IMPORTS BY STERLING DRAFTS

It is assumed that the payments in the import and export transactions described below are effected by means of *sterling bills of exchange*. These are called sterling bills because they are drawn in English money, or pounds sterling. Dollar bills of exchange might have been used and drafts of a somewhat different type might have been employed, but the fundamental principles would be the same.

Suppose that an American exporter ships cotton to an English textile mill and has agreed in advance to obtain payment by drawing a draft or bill of exchange

⁵ Cf. Griffin, C. E., *Principles of Foreign Trade* (1934), Chapter V. Figure B is taken from the same source.

on the millowner who, in turn, has agreed to accept and pay the draft. It is usually customary to make such a draft a "time draft" payable from thirty to ninety days after presentation to the *drawee*, in this case the millowner. The American exporter, of course, is the *drawer* of the draft. Suppose that the draft is a sixty-day draft.

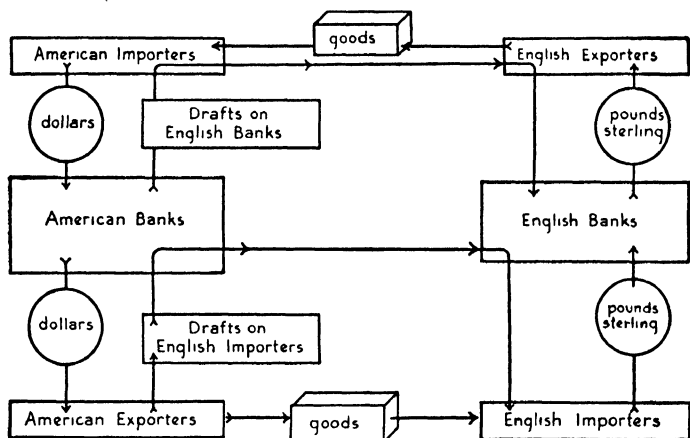


FIGURE B

PAYMENT FOR COMMODITY IMPORTS AND EXPORTS BY THE USE
OF STERLING BILLS OF EXCHANGE

The American exporter will draw a draft in pounds sterling sufficient in amount to cover the price of the cotton, which is usually agreed on in advance. He then takes the draft, with the bill of lading, which gives title to the goods, and certain other documents, such as an insurance certificate, to an American bank where he is known.

The American bank to which the drawer of the

draft, the American exporter, takes the draft and accompanying documents will discount the draft in the same way that it would discount a promissory note for a customer. That is, since the draft will not be paid until sixty days after acceptance, it represents a future sum of money, and the bank will therefore deduct an interest charge in advance when buying it. The bank will then pay the drawer of the draft either in cash or by crediting his deposit account if he is a depositor of the bank. The bank thereby acquires a claim to a future sum of money in pounds sterling, and the American exporter has realized immediate payment in dollars for the cotton that he has sold, and which is now on its way to England.

The American bank now forwards the draft and accompanying documents to a correspondent bank in England. This bank presents the draft to the English millowner who accepts it, or agrees to pay it sixty days after the day it is presented to him for acceptance. The draft thus becomes a "trade acceptance." After he has accepted the draft, the millowner is given the documents that give him legal title to the cotton.

The American bank will have directed its English correspondent bank to do one of two things: either to hold the draft to maturity, at which time it will be paid in full in pounds sterling when presented to the millowner, and these funds will be deposited to the credit of the American bank in the correspondent bank; or the American bank can build up its deposit account with its correspondent bank at once by directing the

correspondent bank to sell the draft in the English discount market to any of the numerous buyers who make a business of buying short-term paper at a discount and of holding it to maturity. If the second course is adopted, the American bank loses the interest it would otherwise earn, but by foregoing this interest it can obtain the advantage of having its sterling balance built up at once.

Assume that the second alternative is selected. The American bank is then in a position to recoup its dollar position by selling a banker's draft to some American importer who wishes to make a sterling remittance to an English exporter who has sent him goods. Such an American importer would come to the American bank and ask for a sterling draft. The American bank would sell him a draft drawn on its English correspondent bank. This draft the American importer would mail to the English exporter, who would present the draft to the English bank which, in turn, would pay it out of the proceeds of the trade acceptance.

In effect, therefore, the importers in a particular country who have made purchases abroad pay the exporters in that country who have sold goods abroad. In the United States there is, as shown in Figure *B*, a stream of money payments in dollars flowing from American importers to American banks and thence to American exporters. Similarly, in England there is a stream of money payments flowing from English importers to English banks and thence to English exporters. These payments need not be in cash; all pay-

ments might be made through the transfer of demand deposits.

The Foreign-Exchange Market. The foreign-exchange market is simply a market maintained by dealers in foreign exchange, many of which are banking institutions, in which bills of exchange are bought and sold. In a large financial center such as New York, there are many exporters and other individuals who receive drafts on foreign individuals or enterprises, and who thus have claims to foreign currencies which they wish to sell for dollars. The chief purchasers are foreign-exchange dealers, mainly large New York banks, who wish to build up their foreign balances, and who are willing to pay dollars in order to do so. They purchase the bills of exchange offered for sale, and use them to establish deposits in foreign banks against which they can sell drafts to American importers and others who have to make payments abroad. Conversely, in foreign financial centers, such as London, foreign-exchange dealers will be buying "dollar exchange" arising from transactions such as exports to the United States and will be selling drafts drawn on their dollar balances to those who must pay dollars to people in the United States.

The Rate of Exchange. The prices that these dealers establish in their transactions are known as exchange rates. Thus, an exchange rate is simply the price in one money of a draft payable in a foreign country in the money of that country. In London, the "dollar exchange rate" is merely the price of dollars expressed in terms of pounds sterling. In New York, the "sterling exchange rate" is the price of sterling exchange expressed in terms

of dollars. Strictly speaking, there is no *one* exchange rate on a given country, but rather a number of rates applying to drafts of different kinds and of different maturities. Since, however, all these various exchange rates tend to rise and fall together, although at a given time there may be a spread between them, it is customary to abstract from these minor qualifications and simply to speak of the exchange rate on a given country.

Demand for and Supply of Foreign Exchange. The exchange rate in this country on a foreign country depends upon the amount of dollars offered against foreign money and, reciprocally, upon the amount of foreign money offered in the market against dollars. For example, if sterling exchange is offered in abundance by American exporters, while at the same time little sterling is being demanded by American importers, sterling will tend to fall relative to the dollar. Here is a typical demand and supply situation. The next question is, what are the factors determining supply and demand?

Any international transaction that gives a resident of this country a claim to *current payment* from a resident of a foreign country increases the supply of foreign money offered against dollars. Or, what is the same thing, it increases the demand for dollars. These transactions are called *credits* in this country's balance of international payments. Transactions of this type are

1. Commodity exports, including gold and silver.
2. Sales of securities to residents of foreign countries, and short-term borrowings by Americans from residents of foreign countries.

3. Repayment by foreigners of long- or short-term loans that Americans have previously made.
4. Interest and dividends paid by residents of foreign countries to Americans.
5. Tourist expenditures by foreigners in the United States.
6. Shipping and insurance services performed by Americans for residents of foreign countries.
7. Remittances by foreigners to friends, relatives, or charitable and educational organizations in the United States.

Commodity exports are clearly *credits* in this country's balance of payments, for foreigners must demand dollar bills of exchange to pay for them. Since gold and silver are commodities in international trade, exports of them are also *credits*, and foreigners must buy dollar bills of exchange to pay for them. Likewise, when residents of a foreign country purchase securities from residents of the United States, repay loans here, make interest and dividend payments here, travel here, buy American services of any kind, or make any other sort of remittance to this country, they must demand dollar bills of exchange with which to make payments. It must be noted that borrowing by Americans from foreigners is a *credit* in our balance of payments in the period in which the borrowing occurs, for it gives Americans *current* claims against foreigners; the foreigners must transfer to this country the funds loaned.

Any international transaction that gives a resident of a foreign country a claim to *current payment* from a resident of the United States increases the supply of dol-

lars offered against foreign moneys. Or, to put it in another way, it increases the demand in this country for foreign exchange. These transactions are called *debits* in this country's balance of international payments. Transactions of this type are

1. Commodity imports, including gold and silver.
2. Purchases of securities from residents of foreign countries, and short-term borrowings by foreigners from residents of the United States.
3. Repayment by Americans of long- or short-term loans which foreigners have previously made.
4. Interest and dividends paid by Americans to residents of foreign countries.
5. Tourist expenditures by Americans in foreign countries.
6. Shipping and insurance services performed by foreigners for residents of the United States.
7. Remittances by Americans to friends, relatives, or charitable and educational organizations in foreign countries.

The import of any type of commodity to this country, including gold and silver, is a *debit* in our balance of payments, for residents of this country must demand foreign exchange to effect payment. Similarly, when Americans purchase securities abroad, lend abroad, repay loans to foreigners, make interest and dividend payments to foreigners, travel abroad, purchase any type of service abroad, or make any other sort of remittance abroad, they must demand foreign exchange with which to make payment. It is to be noted that lending to foreigners by Americans is a debit in our balance of

payments in the period in which it occurs, for Americans must demand foreign exchange in order to transfer the funds loaned.

THE BALANCE OF PAYMENTS

The *balance of payments* of a country is a statistical estimate of its international economic transactions during a stated period of time, usually a year. The balance of payments of the United States in 1936 is shown on page 198.⁶

The first column of figures (credits) summarizes the payments made from abroad to residents of the United States on various accounts in 1936. The second column (debits) shows the payments from residents of the United States to foreigners during the same period.

"Merchandise and service items" should be self-explanatory. The next item, "gold and silver", could be included under "merchandise", but it is shown separately because of its monetary significance. Americans imported 1,327 million dollars worth of gold and silver in 1936, as is shown in the *debit* column; and they exported or "earmarked" for foreign account only 117 million dollars worth of these metals, as is shown in the *credit* column.

"Capital items" require some explanation. The *credit* of 3,475 million dollars under the head of long-term capital represents an *import of capital*, that is, an import of capital funds. This occurred through the sales

⁶ *The Balance of International Payments of the United States in 1936*, United States Department of Commerce, Bureau of Foreign and Domestic Commerce (1937), p. 2

UNITED STATES BALANCE OF PAYMENTS FOR 1936
(In Millions of Dollars)

ITEM	MATURED AMERICAN CLAIMS TO PAYMENT BY FOREIGNERS (CREDITS)	MATURED FOREIGN CLAIMS TO PAYMENT BY AMERICANS (DEBITS)	NET DEBITS (-) OR CREDITS (+)
MERCHANDISE AND SERVICE ITEMS			
Merchandise	2,522	2,463	+ 59
Freight and shipping	68	129	- 61
Tourist expenditures	125	497	- 372
Immigrant remittances	5	115	- 110
Charitable contributions	—	32	- 32
Interest and dividends	<u>568</u>	<u>238</u>	<u>+ 330</u>
Total trade and service items	3,288	3,474	- 186
GOLD AND SILVER			
Gold	114*	1,144	- 1,030
Silver	<u>3</u>	<u>183</u>	<u>- 180</u>
Total gold and silver items	117	1,327	- 1,210
CAPITAL ITEMS			
Long-term	3,475	2,717	+ 758
Net short-term capital movement			<u>+ 392</u>
Balance on capital account			<u>+ 1,150</u>
OMISSIONS AND UNRECORDED ITEMS			- 246

* Includes 86 million dollars of gold "earmarked" for foreign accounts but not physically exported.

of stocks and bonds by residents of the United States to foreigners. It is to be noted that the import of capital funds is a *credit*, whereas an import of commodities is a *debit*. Confusion may be avoided by thinking of capital imports as an export of securities, which is clearly a *credit*. The *debit* item of 2,717 million dollars under this head represents an *export of capital* from the United

States, that is, an export of capital funds. This occurred through the purchases of stocks and bonds by Americans from foreigners.

In some ways, short-term capital movements are analogous to long-term capital movements. Imports of short-term capital funds are *credits*, for these funds are transferred to the United States by the purchase of dollar bills of exchange. Exports of short-term capital funds are *debts*, for these funds are transferred abroad by the purchase of foreign exchange. The 392 million dollars *net credit* under this head in 1936 indicates that the import of short-term capital funds by the United States exceeded by that amount its export of these funds.

EQUILIBRIUM IN THE BALANCE OF PAYMENTS

If statistics were complete and entirely accurate, it would be found that total debits and credits in the balance of payments were always equal. This is sometimes stated as: "Total exports, visible and invisible, must equal total imports, visible and invisible." By visible items are meant commodities and specie, and by invisible items are meant services and capital movements. At all times total debits and credits must be equal; this fact is known as the *equation of international exchange*. When, under gold-standard conditions, debits and credits in the balance of payments are kept equal without the shipment of gold, the balance of payments is said to be in equilibrium. This is because

under gold-standard conditions economic forces are constantly at work that, if allowed to operate, will halt either a continuous inflow or a continuous outflow of gold. Hence the only condition that could be maintained indefinitely is one in which debits are maintained at an equivalence with credits without the shipment of gold. This, of course, does not apply to countries that normally produce gold greatly in excess of domestic consumption. Insofar as other gold-standard countries are concerned, however, economic forces are constantly at work to bring about an adjustment of prices that will halt any long-continued inflow or outflow of gold, and thus will keep debits and credits equal without gold shipments. This equilibrium may never be exactly attained, or if attained, it may not be long sustained; but economic forces are constantly working in this direction. The theory of the gold standard is that deviations from equilibrium in the balance of payments tend to be self-correcting.

THE EFFECTS OF GOLD FLOWS

The foregoing concept of equilibrium in the balance of payments may be illustrated by a brief description of the effects of gold flows in gold-standard countries. In the illustration that is to follow an automatic gold standard of the pre-1914 type will be assumed; that is, a gold standard in which the quantity of money in circulation is allowed to respond quickly and proportionately to outflows and inflows of gold. To simplify the illustration, assume that both the United States and England are on a gold standard of the pre-1914 type,

and that their foreign trade is exclusively with one another. Assume further that the balance of payments is in equilibrium, that is, that debits and credits are equivalent without any movement of gold.

This condition would also involve equilibrium in the price levels of the two countries. The price levels need not be identical in terms of gold; prices of some nontransportable goods might be much higher in England, and others might be much higher in the United States. But the prices of internationally traded goods would be about the same in terms of gold in both countries, except for minor differences traceable largely to transportation costs. An equilibrium in price levels would exist when these prices were such as to bring about a ratio of exports to imports that would maintain the equivalence of debits and credits without any shipment of gold.

An equilibrium of this type might be destroyed by any of a number of changes in underlying conditions. Thus one of the countries might begin a credit inflation or deflation that would cause a change in prices which, in turn, would affect commodity exports and imports. Or there might be a serious crop failure in the United States that would reduce exports from that country. If a serious disequilibrium arose from changes such as these, a considerable gold flow might be necessary to restore equilibrium again.

Suppose that the condition of equilibrium were destroyed by a failure of the cotton crop in the United States. This would cause a rapid decline in exports from the United States and, in consequence, there would

not be such a large supply, in the foreign-exchange markets, of sterling drafts offered for sale by American exporters. Suppose, however, that there was no immediate reduction in American imports from England, and hence no reduction in the demand for sterling drafts with which to pay English exporters.

Par of Exchange. Since there had been a decrease in the supply of sterling drafts, and no decrease in demand, the price of sterling, that is, the exchange rate on England, would rise. But under gold-standard conditions there is a more or less fixed point beyond which the price of sterling cannot ordinarily rise. Before the First World War the dollar contained 23.22 grains of fine gold, and the pound 113 grains. Therefore, the *par of exchange* or the *mint par* between the two moneys was $\frac{113}{23.22} = 4.8665$, or £1 = \$4.8665.

So long as the gold standard was maintained, the price of a pound sterling in terms of the dollar could not vary much from the mint par. If the sterling exchange rate rose to about \$4.8865 it became profitable for American exchange dealers to ship gold to London, convert it into pounds, and sell drafts on the balances built up in this manner. The chief expenses involved in this transaction were the costs of packing, shipping, insurance, and interest lost on gold in transit. Although these expenses varied somewhat from time to time, they were relatively small, usually about two cents for the weight of gold contained in a pound sterling.

Just as the price of pounds in terms of dollars could

not rise much above \$4.8865, it could not fall much below \$4.8465, because in the latter event it would be profitable for English banks to ship gold to America and to sell dollars on the balances thus established.

Gold-Import and Gold-Export Points. When the exchange rate on England rose to about \$4.8865 it was said to be at our *gold-export point*, because at this point it was profitable for American banks to ship gold to London. Conversely, when the exchange rate on England fell to about \$4.8465 it was said to be at our *gold-import point*, because it would be profitable for English banks to ship gold to the United States. The profit that could be made from shipping gold at the gold-export point meant that an almost unlimited supply of sterling exchange became available at that point. Conversely, an almost unlimited supply of dollar exchange became available at the gold-import point. The supply of sterling exchange in the first instance was limited only by the size of the American gold reserve, and the supply of dollars in the second instance was limited only by the size of the English gold reserve. So long as the gold standard was maintained with its free convertibility of money and gold at a fixed rate, and with its free export and free import of gold, the exchange rate was held within the relatively narrow limits of the gold points.

Gold Flows and Readjustment. It has been necessary to digress from the discussion of the effects of international gold flows in order to explain the gold points. It was assumed earlier that, owing to a decrease in the

supply of sterling exchange without a decrease in the demand for it, the sterling exchange rate, or the exchange value of sterling, rose. Suppose that the disequilibrium was sufficiently severe to cause a substantial outflow of gold from the United States as the gold-export point was reached. What would prevent this gold flow from the United States to England from going on indefinitely? The answer is that the loss of gold by the United States, and the acquisition of additional gold by England, would soon adjust prices in the two countries in such a manner as to restore equilibrium in the balance of payments and in the relative price levels of the two countries.

As gold flowed out of the United States, the monetary gold stock of the country would be decreased. This would reduce bank reserves and lead to a decline of demand deposits, of money incomes, and of prices. Conversely, the flow of gold into England would increase the amount of bank reserves there, would lead to a credit expansion, and would increase the amount of money in circulation. This would tend to increase prices and money incomes in England. The rise of prices in England would mean that it would become cheaper for the English to purchase from the United States where prices were now relatively low goods which previously it was unprofitable to import. Conversely, since prices were relatively high in England, it would now be unprofitable for people in the United States to import some goods which formerly had been cheaper in England than at home.

As a result of these changes, commodity exports from

the United States would tend to increase, and commodity imports to decrease. This shift in the ratio of commodity exports to imports in the United States would tend to increase the supply of sterling exchange relative to the demand for it. As American exports increased, the supply of sterling that American exporters would offer to exchange dealers would be increased, while, at the same time, the demand for sterling would decrease as imports into the United States declined. As soon as this change in demand and supply had been sufficient to force the exchange rate below the gold export point, the export of gold would no longer be profitable. Again there would be a condition of equilibrium in which the relative price levels of the two countries would be so adjusted that total debits and credits would be equalized without the necessity for further shipment of gold.

Although the preceding illustration has postulated a temporary decrease in exports from the United States as a cause of disequilibrium in the balance of payments and in price levels, disequilibrium might also be caused by a change in any other items in the balance of payments such as a large capital movement, a sudden decline in tourist expenditures, or the like. Moreover, the disequilibrium, as has been suggested, might arise from monetary or credit changes in one of the countries, such as an overexpansion of bank credit that would increase prices and consequently reduce exports relative to imports. But whatever the source of disequilibrium, under gold-standard conditions it would be corrected by gold flows if counter factors did not

intervene to effect adjustment before this became necessary.⁷

Effect of Capital Movements. Before the First World War international movements of short-term capital, and occasionally of long-term capital, were often of importance in facilitating the maintenance of equilibrium in the balance of payments. This was due, in large part, to the fact that slight changes in interest rates would sometimes induce a considerable corrective movement of capital. Thus if England was losing gold, the Bank of England would usually raise its rediscount rate. This would usually increase market interest rates, and induce an inflow of short-term capital funds to take advantage of the higher interest rates. The inflow of capital would tend to reduce, or even to end, the gold outflow. Similarly, a rise in interest rates would tend to reduce security prices, and might lead to a greater sale of long-term securities to foreign investors attracted by the higher rates of yield. Capital movements of the nature just discussed were an important factor in restoring equilibrium in the balance of payments without heavy gold flows. Indeed, a movement of the exchange rate toward the gold export point was often sufficient to set adjusting forces of this kind in motion even before gold flows had begun. A serious disequi-

⁷ For simplicity in exposition the present analysis omits consideration of the refinements in the monetary mechanism of adjustment. It is the opinion of the authors that these refinements would be out of place in an elementary treatment of the subject. Hence there will be no consideration of adjustment through changes in export and import prices relative to domestic prices, or of the possibility of effecting adjustments without significant price-level changes by means of the transfer of purchasing power from domestic persons to foreigners, or vice versa, resulting from international transactions.

librium between the price level of one gold-standard country and that of other gold-standard countries would, however, usually necessitate some movement of gold to effect the needed adjustments.

C H A P T E R X I

Managed Standards

THE GOLD STANDARD BEFORE 1914

THE preceding chapter described the functioning of the international gold standard of the pre-1914 or "automatic" type. Three principal advantages have been claimed for this type of international standard: (1) It maintained fixed exchange rates between gold-standard countries, (2) it provided an automatic or objective control of the amount of money in each gold-standard country, and (3) it corrected automatically any disequilibrium in the international balance of payments of each gold-standard country.

Stable Exchange Rates. Between the latter part of the last century and the First World War, most of the important trading nations maintained some form of the gold standard. Consequently exchange rates between them were virtually fixed and could vary only within the narrow limits of the gold-export and the gold-import points. Many believe that the stability of

exchange rates encouraged international trade and international lending and borrowing transactions. Importers could predict how much it would cost them to buy foreign exchange with which to pay for goods purchased abroad. For example, they could be sure that pounds sterling would cost not more than \$4.8865 or less than \$4.8465 per unit. Likewise, exporters could know fairly accurately how many dollars they would receive for the foreign exchange given them in payment for goods sold abroad.

Many also maintain that stability of exchange rates encouraged international lending and borrowing transactions. When an international gold standard exists and an American lends abroad and receives in return a foreign debt of which both the principal and interest are expressed in terms of a foreign money, he is assured that these payments can be converted into dollars at virtually a fixed rate. Suppose, for example, that an American lent abroad \$4,866,500 and received in return a debt of £1,000,000 yielding interest at five per cent. If the gold-export point for sterling was \$4.8865 and the gold-import point was \$4.8465, he could be assured that the annual interest payments (£50,000) could be converted into between \$242,325 and \$244,325. And when the principal was repaid, it would amount to between \$4,846,500 and \$4,886,500. But if either country was on an inconvertible paper standard, exchange rates between them could fluctuate more widely. If sterling exchange fluctuated between \$4 and \$5, the annual interest payments would fluctuate between \$200,000 and \$250,000, and when the principal was repaid it would

be converted into any amount between \$4,000,000 and \$5,000,000, depending on the current exchange rate.

Likewise, Americans borrowing abroad in terms of foreign money can know approximately how many dollars it will cost to make interest and principal payments abroad as long as the international gold standard is in operation. They cannot know this when one or both of the countries involved is on an inconvertible paper standard. For these reasons many maintain that the risks of borrowing and lending abroad under the international gold standard are less than they are under inconvertible paper standards.

Others contend, however, that stability of exchange rates under the gold standard have been purchased dearly. They agree that stable exchange rates would be desirable if they could be secured along with stable domestic price levels. But they declare that the international gold standard maintains stable exchange rates by forcing fluctuations in price levels, and that these fluctuations in the price levels are more disturbing to international as well as to domestic transactions than fluctuations of exchange rates would be.

Automatic Control of the Amount of Money. The necessity of maintaining an equilibrium in price levels and in the balance of payments imposed an *objective* control of the amount of money in circulation in a gold-standard country. If any one country should attempt to increase the total volume of its money so that its price level would tend to rise above the price levels of other gold-standard countries, its imports would exceed its exports, it would lose gold, its bank reserves

would decline, and it would be forced to decrease the volume of its money. On the other hand, if the price level of any one gold-standard country should tend to fall below the price levels of other gold-standard countries, its exports would exceed its imports, gold would flow in, bank reserves would be increased, and the quantity of its money would rise.

This automatic and objective control of the quantity of money in a gold-standard country did not bring about stability in that country's price level; it merely forced the country's price level to follow fluctuations in the price levels of other gold-standard countries, and these fluctuations were frequent and sometimes wide. Nevertheless, many people think of the automatic gold standard as a sort of golden ball and chain that prevents bankers and politicians from soaring away into the stratosphere of an unlimited issue of credit money in the form of demand deposits and government notes. These people admit readily that the automatic gold standard did not assure absolute stability in the value of money, but they argue that this type of gold standard maintained a greater stability in the value of money than would be attained under an inconvertible paper standard, managed by a central bank or by government officials. Advocates of managed paper standards disagree with this contention.

Even before the First World War, however, the gold standard was not entirely devoid of management. Such management as existed was usually undertaken by central banks, whose principle means of control were their discount, or rediscount, rates. Before that War, Eng-

land had the most highly developed central banking technique. This, together with the dominance of London as the trade and financial center of the world, meant that the Bank of England regulated to a certain extent the functioning of the international gold standard. When the Bank of England was losing gold, the discount rate was raised. This usually resulted in a rise in interest rates and in a contraction of bank credit and of the quantity of money. Contraction was allowed to run its course until the customary ratio was restored either by a reversal of the gold outflow or by the reduction in the quantity of money. Conversely, an accumulation of monetary gold beyond the usual reserve ratio was customarily accompanied by a low discount rate and by credit expansion.

However, the limited degree of management in the pre-1914 gold standard does not make it inappropriate to designate such a monetary system an "automatic" gold standard. It was automatic in that control was exercised with the strictly limited objective of making the gold standard work more smoothly and effectively. Fundamentally, the quantity of money was determined by the size of the monetary gold stock, and management was directed toward facilitating appropriate adjustments in the volume of money as variations in the size of monetary gold stocks occurred.

Maintenance of Equilibrium in Balances of Payments. A third advantage claimed for the international gold standard is that it tends to correct disequilibrium in international balances of payments. If a country tended to buy abroad more than it sold abroad, it would have

to pay to foreign countries more than foreign countries paid to it, and gold would be exported. This outflow of gold would lower prices in the one country and raise prices abroad, so that the country would sell more abroad and buy less abroad, thereby restoring equilibrium in its balance of payments. If, on the other hand, a country tended to sell abroad more than it bought abroad, it would import gold, its price level would rise, and foreign price levels might fall. This would discourage exports from the country and encourage imports to it, thereby restoring equilibrium in its balance of payments.

Critics of the automatic international gold standard do not deny that this standard tended to maintain equilibrium in international balances of payments. They do contend, however, that the method by which it accomplished this result—by forcing changes in the volume of money and in price levels—often led to serious economic disequilibrium in the countries involved. Furthermore, they point out that inconvertible paper standards also operate to equilibrate balances of payments and do this in ways that, they contend, do not exert such disturbing effects on domestic economies. How this occurs will be explained in the latter part of this chapter.

MANAGED STANDARDS

Whatever the relative merits of the automatic international gold standard and of managed standards, the fact remains that, especially in the period since the First World War, monetary systems have lost much of their

automatic character and have been subjected to an increasing degree of management. And the future trend appears to be toward even more management.

The Managed Gold Standard. Some advocates of a managed standard believe that management should be attempted only within the limits of some form of the gold standard. They would have the country allow free export and free import of gold and maintain its money at a fixed value in terms of gold, thereby securing stable international exchange rates; but they would not allow gold imports and gold exports to bring about proportional changes in the country's money supply unless that was deemed desirable. The proposed management would be carried on by central banks or by government officials. If the responsible authorities should decide that gold imports should not be allowed to increase commercial-bank reserves and the money supply, they could raise rediscount rates, sell securities in the open market, raise the reserve requirements of commercial banks, or apply any of the other restrictive measures described in Chapter VI.¹ If they should decide to prevent gold exports from reducing bank reserves and from decreasing the money supply, they could lower rediscount rates, buy securities in the open market, lower the reserve requirements of commercial banks, and adopt other expansionary or antideflationary measures.

The success of a managed gold standard depends to some extent upon the size of the area over which management is attempted. If all the principal gold-standard

¹ Cf. above, pp. 117-127.

countries should co-operate wholeheartedly to stabilize their price levels, they might be relatively successful in the attempt. But if any one gold-standard country attempted to stabilize its price level without the co-operation of other countries, it would probably be less successful. This is especially true of small countries, such as Holland, Belgium, Switzerland, or even France. If one of these countries attempted to stabilize its prices while price levels in other gold-standard countries were falling, its prices would become high in relation to the falling prices abroad, it would sell less abroad and buy more abroad, and it would lose gold continuously. In the end it would be forced either to abandon the gold standard or to allow its price level to fall in order to check the gold drain.

If, on the other hand, such a country attempted to stabilize its prices while prices in other gold-standard countries were rising, its prices would become low in relation to prices abroad, it would buy less abroad and sell more abroad, and it would receive gold in payment. The gold inflow would be so great that the central bank and the government would probably be powerless to prevent an expansion of the money supply and a rise of prices. But even if the price rise were successfully resisted, the country would accumulate large stores of unused gold, all of which would be purchased by the export of valuable and useful goods and services.

A financially powerful country possessing a sizeable proportion of the world's supply of monetary gold, as does the United States, might employ a managed gold standard with more success than could a small

country — at least for a time. It might to some extent stabilize the purchasing power of gold throughout the world. For example, suppose that the United States should decide to stabilize its price level while prices in other gold-standard countries were falling. American prices would become high in relation to the falling foreign prices, our imports of goods and services would exceed our exports of them, and gold would flow out. The United States has such a huge stock of gold that gold exports to other countries might be sufficient to expand money abroad, to halt deflation abroad, and to end the gold drain from this country before gold stocks here were exhausted. If this occurred, the anti-deflation policy in the United States would tend to arrest deflation in all gold-standard countries. But if the deflation in foreign countries was serious and prolonged, the drain of gold from the United States could easily be great enough to force this country to allow its price level to fall, or else to abandon the gold standard.

If the United States should attempt to stabilize its price level while other gold-standard countries were experiencing an inflation, its price level would become low in relation to price levels abroad, it would sell abroad more than it bought abroad, and gold would pour in. Federal reserve and Treasury authorities might be able to prevent these additions to the monetary gold stock from increasing the supply of money and from raising prices here for a period long enough to allow the drain of gold from other countries to stop the inflationary trend there, and thus to bring the gold flow

to an end. In this case, the anti-inflation policy of the United States would arrest inflation abroad. It must be noted, however, that even if the price-stabilization policy was successful, the United States would accumulate great stores of unused gold, which would be paid for by the export of goods and services. This country would be bearing the cost of price stabilization in all gold-standard countries. But if the inflationary trend abroad was intense and prolonged, the flow of gold to the United States might be so great that federal reserve and Treasury authorities would be powerless to prevent inflation here in the long run.

For these reasons, many advocates of a managed standard are dubious about the desirability of a managed *gold* standard of this type. They are skeptical of the ability of any one country to exercise effective control over the quantity of its money so long as the monetary authorities are compelled to maintain the monetary unit at a parity in value with a fixed weight of gold. They contend that no one country can long dominate the situation, and that sooner or later any one country is compelled to adjust its price level to the general trend of inflation or deflation taking place in gold-standard countries at large. The experience of gold-standard countries during the last depression lends considerable support to this view.

Managed Paper Standard. Some advocates of managed money believe in a complete divorce of money from gold and in the resort to a managed *paper* standard. In such a system the monetary authorities would have complete control over the quantity of

money. Gold might still be used as a commodity to settle international balances and to moderate erratic short-term fluctuations in exchange rates; but money would not be kept at a fixed value in terms of gold, and gold would not be allowed to influence the supply of money in the country. Monetary authorities would deliberately manage the quantity of money for the purpose of attaining some objective such as the stabilization of the price level or the stabilization of economic activity.

Exchange Rates under Paper Standards. The fundamental principle of foreign exchange is that money tends to have the same value at home and abroad. This is true whether the monetary units exchanged both have a fixed value in terms of gold, or whether one or both is an inconvertible paper money. It has been seen that the *mint par of exchange* between two gold-standard moneys is determined by their relative gold contents, that is, by their relative ability to purchase gold, and that exchange rates between them cannot vary by more than the cost of shipping gold. For example, before 1914, when both the United States and England were on the gold standard, the pound sterling was equal to 4.8665 times as much gold as was the dollar. The mint par of exchange between them was, therefore, £1 = \$4.8665. It has also been seen that the purchasing power of gold, as indicated by price levels, tended to be about the same in all gold-standard countries. Any tendency for gold to have a higher purchasing power over goods and services in one country than in others was corrected by shipments of gold to

that country, and any tendency for gold to have a lower purchasing power over goods and services in one country than in others was corrected by shipments of gold from that country to other countries. Since the purchasing power of gold tended to be the same in all gold-standard countries, one pound sterling, containing 4.8665 times as much gold as the dollar, tended to purchase in England approximately 4.8665 times as large a quantity of goods and services as one gold dollar would purchase in the United States. In other words, the purchasing powers of the two monetary units at home tended to be in about the same ratio as their gold contents, and the exchange rate between them tended to reflect not only their relative gold contents but also their relative purchasing power over goods and services.

Since inconvertible paper money does not have a fixed value in terms of gold, there cannot be a *mint par of exchange* between two inconvertible paper moneys, or even between an inconvertible paper money and a gold money. There is, however, a type of parity or par of exchange around which exchange rates between inconvertible paper moneys, or between an inconvertible paper money and a gold money, tend to fluctuate. This is called a *purchasing power parity*. It is determined by the relative purchasing power of the monetary units involved. Thus if a paper pound would purchase in England five times as large a quantity of goods and services as a paper dollar would purchase in the United States, the purchasing power parity between them would be £1 = \$5. Money is demanded only because

of its power to buy goods and services. Therefore, if a paper pound will buy five times as many goods and services as a paper dollar will buy, one pound will buy about five dollars in the foreign exchange market, or one dollar will buy about one fifth of a pound. Thus, exchange rates between inconvertible paper moneys, like exchange rates between gold moneys, tend to reflect the relative purchasing powers of the monetary units exchanged.

Any exchange rate between inconvertible paper moneys that was very far from purchasing-power parity could not be maintained. If the value of the paper pound in the foreign exchange market should fall very far below its purchasing-power parity, say to £1 = \$4.50, the demand for sterling exchange would exceed its supply. As the value of sterling fell in the foreign exchange market, Americans would find it cheaper to buy in England, they would increase their purchases of goods and services in England, and they would demand more sterling exchange with which to make payment. But as the value of sterling declined in terms of dollars, the English would find it more expensive to buy in the United States, American exports to England would decline, and less sterling exchange would be offered. Therefore, at any exchange value for sterling very far below purchasing-power parity, American imports from England would exceed American exports to England, and the demand for sterling exchange would exceed the supply of it.

Conversely, the supply of sterling exchange would exceed the demand for it at any exchange value of

sterling very far above purchasing-power parity. If, for example, the value of sterling exchange should rise to $\text{£}1 = \$5.50$, while purchasing-power parity remained at $\text{£}1 = \$5$, less sterling would be demanded and more would be offered. The overvaluation of the pound in terms of dollars would make it more expensive for Americans to buy in England, American imports from England would decline, and Americans would demand fewer pounds with which to make payment. But the undervaluation of the dollar, or the overvaluation of the pound, would make it less expensive for the English to buy in the United States, they would buy more here, and American exporters would have a larger amount of sterling to offer in the market for dollars. It seems likely, therefore, that a value of sterling exchange very far above purchasing-power parity could not be maintained, for at such a price more sterling would be offered than would be demanded. The supply of and demand for dollars and sterling would usually be equalized at a rate of exchange somewhere around purchasing-power parity, but not necessarily at that exact figure.

It must be noted that the purchasing-power parity is not an unvarying figure. It varies with changes in the relative purchasing powers of the monetary units involved. The purchasing-power parity of $\text{£}1 = \$5$ assumed above would continue only so long as the paper pound would purchase five times as much as would the paper dollar. If the price level in England should double—that is, if the pound should lose half of its purchasing power—while the price level in the United

States and the purchasing power of the dollar remained constant, the pound would buy only two and a half times as much as the dollar, and the new purchasing-power parity would be $\text{£}1 = \$2.50$. But if, instead, the purchasing power of the pound remained constant while the dollar lost half of its purchasing power (as the price level in the United States doubled), the pound would contain ten times as much purchasing power as the dollar, and the new purchasing-power parity would be $\text{£}1 = \$10$.

Adjustments in Balances of International Payments under Inconvertible Paper Standards. It was seen earlier that the automatic international gold standard tended to maintain equilibrium in balances of international payments. Under this type of standard, tendencies toward disequilibrium were corrected by maintaining virtually stable exchange rates and by allowing international gold flows to effect the necessary adjustments in the quantity of money and in the price level of each country concerned.²

Disequilibria in balances of payments are also corrected under inconvertible paper standards, but in a quite different way. If a disequilibrium should occur in the balance of payments of the United States while it was on an inconvertible paper standard, neither its quantity of money nor its general price level would necessarily be affected. Paper dollars would not be exported, since they would not circulate abroad, nor would foreign paper money be imported. The volume of cash and of bank reserves would be unaffected, so that there

² Cf. pp. 203-206.

would be no reason why the supply of money and the general price level should necessarily change. But exchange rates would be altered, and this alteration of exchange rates would tend to restore equilibrium in the balance of payments.

Suppose, for example, that at a time when the demand for and supply of foreign exchange had been equalized at an exchange rate of £1 = \$5 there should occur a real increase in the American demand for foreign goods without an increase in the foreign demand for American goods. As the demand for sterling exchange increased, owing to the increase of American purchases abroad, without a real increase in the supply of sterling, sterling exchange rates would rise, or, what is the same thing, the exchange value of the dollar would fall. As sterling exchange rates rose, it would cost Americans more to buy in England and they would tend to limit their purchases there. But as the value of the dollar in terms of sterling fell, the English would find it cheaper than before to purchase in the United States and would buy more here. Thus the rise of sterling exchange rates, or the fall of dollar exchange rates, would maintain equilibrium in the balance of payments of the United States by discouraging imports and by encouraging exports.

If, instead, the American demand for foreign goods and services had declined without a decline in the foreign demand for American goods, the value of the dollar would have risen in terms of foreign monetary units. This would have encouraged American purchases abroad and would have discouraged foreign

purchases here, thereby maintaining the balance of payments in equilibrium.

The methods of restoring equilibrium in balances of payments under the international automatic gold standard and under inconvertible paper standards can now be contrasted. Under the former, exchange rates remain virtually fixed and the necessary adjustments are effected through international gold flows, changes in the quantity of money in each country, and changes in price levels. Under the latter standard, there need not occur changes in the quantity of money in each country nor changes in price levels; the adjustments can be effected through changes in exchange rates.

It must not be assumed, however, that all fluctuations of exchange rates between inconvertible paper moneys or between an inconvertible paper money and a gold money are conducive to long-run equilibrium. Some fluctuations, especially those arising out of fears of war, revolution, inflation and other disorders, are likely to be quite wide in scope and disturbing to trade. But these fluctuations can be controlled, within limits, by *exchange stabilization funds*. An exchange stabilization fund can limit increases in the value of foreign exchange by selling foreign exchange, and it can limit declines in the value of foreign exchange by buying it.

In addition, nations with paper standards have increasingly resorted to *exchange controls* as a means of regulating or stabilizing exchange rates. When such controls are in effect foreign exchange transactions are usually prohibited except at officially established rates. Exporters or others who receive foreign exchange are

required to sell it at an official rate to the exchange control authorities or their agents who in turn resell it at an official rate to importers or others needing foreign exchange to make payments abroad. Importers or others wishing to make such payments are usually required to obtain an exchange permit or license before purchasing foreign exchange. By restricting the issuance of permits it is possible within limits to adjust the effective demand for foreign exchange to the available supply without fluctuations in the exchange rate. Like any system of price control and rationing, however, exchange controls entail many difficulties of administration and enforcement, particularly when they are used to maintain exchange rates widely at variance with rates required for long-run equilibrium.

Criticisms of Managed Paper Standards. The disadvantages of automatic and managed gold standards have already been described. But the dangers and shortcomings of managed paper standards must not be ignored or minimized. In the first place, there is a danger that paper money will be overissued. If the determination and administration of monetary policies were entrusted to a body of highly capable, honest, and courageous men who were unaffected by either the public clamor or the political fortunes of the party in control of the government, this danger would not be serious. It may be important, however, when monetary policies are at least partially determined by popularly elected officials. The government is always tempted to issue new paper money with which to pay its expenses. In this way it can avoid an unpopular increase of taxes

or effect a reduction of taxes, thereby increasing the chances of re-election of the party in power. Moreover, a majority of the voters, especially in a country in which debtors outnumber creditors, are usually in favor of rising prices despite the fact that the increase of prices may culminate in crisis and depression. In short, a paper standard may be managed in such a way as to prevent the attainment of domestic economic equilibrium, owing to the incapacity of the managing authorities and to outside pressure that may force them to adopt unwise monetary and credit policies.

In the second place, fluctuations of international exchange rates under paper standards may interfere with inter-country trade and capital transactions. Short-run deviations of market exchange rates from purchasing-power parity may be upsetting in both international commodity and capital markets. And long-run shifts of purchasing-power parities as price levels shift in the countries concerned tend to increase the risk of international lending and borrowing, especially at long term.

In the third place, the paper standards of recent years have usually been accompanied by rigid exchange controls and monetary and exchange practices which have been seriously disruptive to world trade. While the widespread existence of paper standards cannot be regarded as primarily responsible for disordered world trade—to a large degree both are the results of common causes³—the freedom of action available to

³ See Dell, B., and Luthringer, G. F., *Population, Resources, and Trade* (1938) for a discussion of the difficulties of maintaining orderly international monetary relationships under any type of standard so long as countries follow nationalistic and restrictive trade policies.

individual countries under paper standards conditions provides a particularly fertile field for excessive economic nationalism. In some cases exchange controls have ceased to become primarily devices for rationing scarce foreign exchange and preventing economically undesirable fluctuations in exchange rates and have been used rather as tools for the discriminatory restriction of imports. Sometimes monetary units have been maintained at an arbitrarily high value by ruthless exclusion of imports and discriminatory subsidization of exports regardless of the general effects on world trade. Some countries have sought to obtain unfair competitive advantages for their exports by economically unjustifiable devaluations of their monetary units.

Although paper standards give monetary authorities a freer hand in dealing with many problems, the trade and financial restrictions and discriminations which have accompanied the widespread abandonment of the gold standard have so adversely affected world trade that there has arisen a general recognition of the need for some mechanism for international monetary co-operation to replace that which was formerly enforced by the international gold standard. It has become increasingly clear that if most countries are to maintain managed paper standards, and if each is to be guided in management by purely domestic considerations or narrow ideas of national advantage, the establishment of orderly and stable international trade and financial relationships will become virtually impossible.

THE INTERNATIONAL MONETARY FUND

The International Monetary Fund represents an effort on the part of 40 of the United Nations to achieve orderly and stable international monetary and trade relations while at the same time leaving to each member country a very considerable latitude in the management of its monetary affairs. The Fund, which is still in the organizational stage, was established in accordance with Articles of Agreement drawn up by the representatives of 44 nations in the United Nations Monetary and Financial Conference called on the invitation of President Roosevelt at Bretton Woods, New Hampshire, in July 1944. The Articles of Agreement went into effect on December 27, 1945, after signature by 29 of the 44 nations represented at Bretton Woods. Subsequent signatures have brought the number of member nations to 40. The Soviet Union is the only major power among the United Nations which has not become a member of the Fund. The principal office of the Fund is located in Washington, D.C.

Purposes of the Fund. The purposes of the Fund as set forth in the Articles of Agreement may be summarized as follows:

1. To • promote international monetary co-operation through an institution which provides the machinery for consultation and collaboration;
2. To facilitate the balanced growth of international trade,

and to contribute thereby to the promotion and maintenance of high levels of employment and real income;

3. To promote exchange stability, to maintain orderly exchange arrangements, and to avoid competitive exchange depreciation;

4. To assist in the elimination of foreign exchange restrictions which hamper the growth of world trade;

5. To provide members, through availability of the Fund's resources, with an opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.

Quotas. Each member of the Fund is assigned a quota which establishes the amount of its subscription to the Fund and largely determines its voting power and the extent to which it may purchase exchange from the Fund. Members must pay to the Fund in gold, as a minimum, either twenty-five per cent of their quotas or ten per cent of their net official holdings of gold and dollars, whichever is the smaller. The balance of each quota is payable in the currency of the member. This may take the form of a deposit to the account of the Fund in the member's central bank. The total quotas of the 40 present members of the Fund amount to approximately 7.5 billions of dollars. The quota of the United States is \$2.75 billions, that of the United Kingdom \$1.30, China \$.55, France \$.525 and India \$.40 billions. The gold and currencies subscribed by the members will provide the Fund with the resources with which to conduct its operations.

Operations of the Fund. The Fund will deal only with the Treasury, central bank, stabilization fund or similar

fiscal agency of a member country; it will thus not operate directly in the foreign exchange markets or deal with private traders or commercial banks. The primary purpose of the Fund's dealings will be to aid member countries in meeting a temporary adverse balance of payments on current account.⁴ The Fund will do this by selling to a member, in exchange for the member's currency, the foreign exchange the member may need to settle its obligations on current account to other member countries. For example, if France were temporarily in need of dollars and sterling in order to settle French obligations on current account to the United States and the United Kingdom, the Bank of France could purchase dollars and sterling from the Fund and make payment by depositing the equivalent in francs to the credit of the Fund in the deposit account of the Fund with the Bank of France. The Bank of France would then sell the dollars and sterling thus acquired to French commercial banks or exchange dealers. If the Fund should be short of any particular currency, say dollars, it could use its gold resources to make purchases of dollars from the United States. The Fund may also make arrangements for borrowing from members currencies for which there is a great demand relative to the Fund holdings.

The Fund's sales of foreign exchange to members are subject to carefully drawn safeguards and limitations.

⁴ As defined in the Articles of Agreement payments for current transactions means payments which are not for the purpose of transferring capital. This does not, however, exclude payments in connection with normal short-term banking and credit facilities, interest on loans, income from investments, and "moderate" payments for amortization and depreciation.

As a general rule a member may not purchase foreign exchange from the Fund with its own currency in a net amount⁵ exceeding twenty-five per cent of its quota in any twelve-month period. Moreover, in general a member may not over a period of years make such purchases in a net amount exceeding one hundred per cent of its quota plus the amount of its original gold subscription. For example, India has a quota of \$400 million of which let it be assumed \$100 million is subscribed in gold and \$300 million in its own currency, rupees. India could then purchase with rupees from the Fund foreign exchange in the amount of \$100 million net annually for five years, or a total amount of \$500 million net, before reaching its normal limit on the use of the Fund's resources. In addition to the foregoing limitations, the Fund imposes charges for the use of its resources. These charges increase both with the amount of purchases by a member relative to its quota and with the length of time that the member avails itself of the Fund's resources.

It is contemplated that the Fund's resources will be continually paid out and replenished. When a member's balance of payments is temporarily unfavorable it will purchase foreign exchange from the Fund with its own currency. When it has had time to correct this disequilibrium and its balance turns favorable, it is required under carefully stipulated conditions to repur-

⁵ By *net amount* as used above is meant the amount by which the Fund's holdings of a member's currency is increased as a result of the member's purchases of exchange after taking into account decreases in the Fund's holdings of that member's currency as a result of its sale by the Fund to other members or repurchases by that member of its own currency from the Fund with gold or foreign exchange.

chase its currency from the Fund with gold or convertible foreign currencies. The resources of the Fund will not be available to meet a chronic adverse balance of payments on the part of a member; if such a disequilibrium arises the member must take measures to correct the situation. Furthermore, the Fund is not to be used as a means of accumulating a hoard of foreign balances or as a source of long-term capital for foreign investments. The latter function is to be performed by the International Bank for Reconstruction and Development, the agreement for which was also drawn up at the Bretton Woods Conference. In making purchases of exchange from the Fund each member must represent that the exchange is needed for making payments consistent with the provisions of the Fund Agreement. The Fund may limit or deny the use of its resources to a member known to have been making improper use of the resources of the Fund or to a member which is not complying with the obligations which it undertook in becoming a member of the Fund.

Obligations of Members. In accepting membership in the Fund each country undertakes a number of obligations designed to promote stability of exchange rates and to further international monetary co-operation. Members undertake not to engage in discriminatory currency practices or to impose restrictions on payments for current international transactions without the approval of the Fund. However, in view of the difficulties of adjustment which were foreseen in the period following the end of the Second World War, a member may at its request retain exchange restrictions on cur-

rent transactions for a transitional period of five years. Each member undertakes to collaborate with the Fund to maintain exchange stability and to avoid competitive exchange alterations.

Before a member may engage in exchange transactions with the Fund it must agree with the Fund as to the initial par value of its currency. Thereafter the member shall not propose a change in the par value of its currency except to correct a fundamental disequilibrium. Members must also undertake that exchange rates shall not differ from parity by more than one per cent in the case of spot exchange transactions. Changes in par value may be made only on the proposal of a member and only after consultation with the Fund. The Fund may not object to a change if the proposed change, together with previous changes since agreement on the initial par value, does not exceed ten per cent. The Fund may object, however, in the case of proposed changes in excess of ten per cent. Whenever the par value of a member's currency is reduced the member must pay to the Fund an amount in its own currency equal to the reduction in the gold value of its currency which the Fund holds. This requirement prevents currency devaluations from decreasing the value of the Fund's assets.

It is apparent from the foregoing that although the Fund is designed to promote stability of exchange rates it is not intended to prevent alterations in rates for the purpose of correcting a fundamental disequilibrium. It is reasonable to assume that in the future changes in par values and hence in rates of exchange will occur with greater frequency than under the international gold

standard but with less frequency than if the members were free to alter rates at their whim for purposes of competitive trade advantage. Membership in the Fund requires the acceptance of substantial obligations and to a very considerable degree a voluntary relinquishment of freedom of action; in return, the members receive the assurance of support of the Fund and protection from the consequences of arbitrary action by one country in disregard of the interests of others.

Role of Gold in the Fund. Some critics of the Fund, particularly in the United Kingdom, have opposed membership in the Fund on the ground that the Fund amounts to a restoration of the international gold standard. It is at best doubtful that this contention can be sustained, but it is true that the Fund gives greater assurance of a significant future monetary role for gold than would be the case if the use of gold for monetary purposes were confined to the few countries willing and able to maintain a gold standard.⁶

As was pointed out above, part of the subscriptions to the Fund are to be paid in gold. The Articles of Agreement further require that each member express the par value of its currency in gold as a common denominator or (which amounts to the same thing) in terms of the United States dollar of the weight and fineness in effect on July 1, 1944. The Fund prescribes a margin above and below par value for transactions in gold by members. Members agree to accept gold from the Fund in exchange for their currency and the Fund will accept

⁶ Cf. Feis, Herbert, *The Sinews of Peace* (Harper and Brothers, 1944), page 82.

gold from a member wishing to purchase the currency of another member or to repurchase its own currency from the Fund when the Fund's holdings of its currency exceed the member's quota. All charges levied by the Fund are payable in gold. Members are not required, however, to permit the free export or import of gold or to undertake any general obligation to convert their currencies into gold on demand. Hence it is not accurate to say that the Fund will result in the restoration of the international gold standard.⁷ Members of the Fund are free to manage their monetary systems individually without reference to variations in the amount of gold they may happen to hold.

One of the most significant provisions of the Articles of Agreement with respect to gold is that relating to uniform changes in par values. The Fund, by a majority of the total voting power, may make uniform proportionate changes in the par values of the currencies of all members.⁸ Thus if the production of gold were decreasing relative to the volume of trade and a long run decline in prices appeared likely, the members of the Fund could vote for a uniform proportionate reduction in par values and thus relieve deflationary pressures arising from the relative scarcity of gold.⁹ Opposite action could be taken in a situation in which world monetary stability was threatened by increased gold production. The provision for uniform changes in par values is another indi-

⁷ See above, pages 180 and 181.

⁸ However, countries which did not wish to make a proportionate change in the par value of their currencies would not be compelled to do so if they notified the Fund of their decisions within 72 hours after the Fund's action.

⁹ See above, pages 148-153.

cation of the degree of monetary management envisaged by the Articles of Agreement of the International Monetary Fund.

MONETARY STANDARDS IN THE UNITED STATES

As one reviews the monetary history of the United States, he is struck by the number of times the monetary standard has been changed. Up to the present time no standard has been able to persist for any long period, and there is no reason to believe that the present standard will be any more permanent.

From the beginning of the nineteenth century until 1873, the United States was *legally* on a bimetallic standard of both gold and silver. Up to 1834, however, gold was undervalued at the mint, so that almost no gold entered the monetary system and the country was on a *de facto* silver standard. From 1834 to 1861 the situation was reversed; silver was undervalued at the mint, so that but little silver was coined and the country was on a *de facto* gold-coin standard. From 1861 to 1879 gold payments were suspended, and the country was actually on an inconvertible paper standard. From 1879 to 1914 the United States, as well as most other important countries, was both legally and actually on a gold-coin standard; this was the period of the international automatic gold standard. During the period of ~~the~~ First World War, all the belligerent countries and some others abandoned gold. The United States was again on a gold-coin standard from 1919 to

1933, but the standard was quite different from that of the pre-war period. In the first place, the federal reserve system, which was established in 1914, imposed a considerable degree of management and frequently prevented gold flows from exerting their full effects on money and prices. In the second place, many of the other economically important countries were off the gold standard a large part of the time. This was especially true of the periods before 1925 and after 1931. And even while they were on the gold standard, most of these countries deliberately managed their moneys to a considerable extent. Under these conditions the gold standard was not entirely automatic, and much of the time it was not international.

From March 1933 until January 1934 the United States was on an inconvertible paper standard with both federal reserve and Treasury authorities exercising their powers of management. In January 1934 a gold-bullion standard was established, but the gold content of the dollar was reduced over forty per cent. Since that time the monetary system has been subjected to a high degree of management; virtually every one of the instruments of control described in Chapter VI has been employed at least once by federal reserve and Treasury authorities.

At one time or another, therefore, the United States has been on a bimetallic standard, a *de facto* silver standard, a *de facto* gold standard, an inconvertible paper standard, an automatic gold-coin standard, a managed gold-coin standard, and a managed gold-bullion standard.

Though the United States is now on a managed gold-bullion standard, the President has the authority under existing monetary legislation to put the country on any one of the following standards: (1) an inconvertible paper standard, (2) a bimetallic standard, and (3) a gold-bullion standard.

To put the country on an inconvertible paper standard the President needs only to order the discontinuance of free import and export of gold and of Treasury purchases and sales of gold at a fixed price. He can establish a bimetallic standard by buying and selling silver at a fixed price, a power granted by the Silver Purchase Act of 1934. He can continue the gold-bullion standard in its present form. Monetary legislation may, of course, be changed by Congress at any time.

Whatever monetary standards may be in the future, they will in all probability be subjected to a considerable degree of management.

PART FOUR

PUBLIC FINANCE

C H A P T E R X I I

The Public Economy

NATURE OF THE PUBLIC ECONOMY

THE economic system, under which men produce goods and services to satisfy their wants, has its setting within the framework of the political institution called the state. The state is a form of human association that has evolved as a result of man's struggle for existence. Government is one of the most important agencies through which services are rendered to the people comprising the state. It is hardly conceivable that modern economic society could survive without the stabilizing influence of organized government. In fact, since government is an agency for performing valuable services, it must be considered as an integral part of the economic system. When protection to persons and property, education, and highways are provided by government, they are economic services just as truly as when purchased by individuals through prices paid to private enterprisers. Although the services of government are

financed in a different manner this does not alter the fact that these services have economic value and result in the utilization of economic resources, such as labor and materials, that command a price.

In order to purchase goods and services, with which to perform governmental functions, the government must command purchasing power; that is, have an income. For the most part, this income is derived from taxation, a method by which part of the purchasing power of the people is taken to meet the cost of supplying government services to them.

The federal government of the United States, the governments of the forty-eight states, and about 155,000 units of local government, consisting of counties, cities, towns, townships, school districts, and special districts, all spend money to provide services and must obtain the funds necessary to cover the cost of these services. These various government units of the nation are part of the national economy and may be called the *public economy*. Public finance is the branch of economics that deals with the fiscal aspects of government.

COMPARISONS BETWEEN PUBLIC AND PRIVATE ECONOMY

The Profit Yardstick. In modern economic society, success in a private enterprise is measured by the profits it yields and not by its contribution to the economic welfare of the community. Government, on the contrary, does not exist to produce profits but to provide services that benefit the public. It is the purpose of good government to render the maximum service at a

minimum cost. This fundamental distinction between public and private economy must be borne in mind by those who insist that government ought to be operated like a private business. What they really mean is that government ought to be more efficient, and with this there can be no more disagreement than with the proposition that private enterprises should be more efficient. Economy and efficiency are appropriate watchwords in both public and private business. The maximization of satisfactions with minimum effort is the test of true economy in either.

Since the government is not operated for profit, however, the problem of realizing greater efficiency in the public economy is much more difficult. The lure of profit (or the fear of loss) in private enterprise is a most potent stimulus to reduce unit costs and improve the product or service. A business manager who cannot show profits is likely to lose his job to someone else who can. Or, if the owner is also the manager and the business is unsuccessful, he is eventually forced by his competitors to cease to be an enterpriser. But the profit yardstick is absent in the public economy. The efficiency of heads of government departments and other public employees cannot be determined by referring to a profit-and-loss statement. Consequently, other methods must be used to measure their competency. Even when the inefficiency of a government agency is known, there is not the same incentive to secure more competent personnel and introduce more efficient methods as there is in a private business where such changes are expected to bring more profits to the owners. The citi-

zens and taxpayers are the "stockholders" of government but, instead of demanding that the efficiency of their joint enterprise shall be effectively measured and methods for improving it rigorously applied, they are notoriously apathetic towards the conduct of the public economy.

Compulsion. The element of compulsion marks another distinction between public and private economy. An individual chooses a job or a business. He chooses what goods he buys or sells. But he has little choice as to whether or not he will live under government. He is subject to its laws regardless of his opinion of their desirability. He cannot refuse to pay taxes on the ground that he does not need or does not want some of the government services that he must help to support. A man who has no children or who sends his children to private schools and pays the price of their education is not, on that account, free from obligation to pay taxes to maintain public schools.

Purposes of the State Largely Intangible. In the private economy, economic goods and services have prices. The individual decides whether the satisfaction he expects to receive from their use is worth the price he must pay to obtain them. On the other hand, the ends or purposes of the state are largely intangible and nonmaterial, and its services are given for the *public benefit* and not for the satisfaction or enrichment of any particular individual. Such services as police protection, education, sanitation, and public health work are none the less real because they are intangible, and none the less valuable to the community because the degree of

benefit to different persons is not easily measurable. This is a fundamental reason for the financing of the public economy primarily by taxation, rather than by selling government services only to those who have, and are willing to pay, the price.

Longevity of the State. The longevity of the state, in comparison with the length of life of individuals, is another significant feature of the public economy. This enables government to engage in activities, such as reforestation and soil conservation, from which future generations may receive most of the benefit and which private enterprisers might not consider profitable to undertake. Government is trustee for the future no less than for the present. It can justifiably take a longer point of view than private individuals and do things that, in the long run, are worth their cost to the community but may be of little benefit to the present generation. Likewise, because of its superior resources, it may finance projects, such as the Panama Canal and Boulder Dam, that may be too costly and difficult to be undertaken by private enterprise.

Relation of Income and Expenditures. A distinction between public and private economy can be drawn with regard to the relationship between income and expenditures. In private finance, the individual must regulate his spending by the amount of his income. A government taxes or borrows enough to cover its expenditures. However, government officials cannot disregard with impunity the effect of increasing taxes. They are often forced to curtail expenditures and "cut the garment to fit the cloth."

SCOPE OF THE PUBLIC ECONOMY

How much should be done by the government? Citizens are fond of complaining that there is too much government, particularly when they have to pay for it, and yet are frequently saying, "There ought to be a law . . ." or "The government should do something about it." What is the proper sphere of state activity? How far should each type of government activity be extended? These are controversial and yet very practical questions, since upon the answers depend the volume of public expenditures and the amount of revenue to be raised. These are practical issues also because someone must decide whether a new activity shall be undertaken or an existing one abandoned, whether more or less shall be spent for a particular function, and how the revenue will be raised to pay for the activities of government.

The decisions as to what shall be done by government, and how it shall be financed, are usually made by public officials. But the ultimate responsibility for the action taken on these questions rests, in a democracy, upon the citizens who choose the officials representing them. The decisions of neither the citizens nor their public servants are arrived at necessarily by logical reasoning as to what will best promote the public welfare. Apathy, emotion, prejudice, party politics, self-interest, propaganda, and the tactics of "pressure groups" often appear to be more influential factors.

The Change in Government Activities. Government now does many things that, a century ago, either it did

not do at all, or upon which very little public money was spent. People comment on the ever-enlarging sphere of the state and the passing of *laissez faire* and individualism. It is frequently asserted that there has been a great expansion in the scope of governmental activities in the last century. It is here suggested that the most significant change has been in the nature and direction of governmental activities. There has been a very large increase in the cost of government, but public expenditures do not necessarily measure the scope of governmental activity and the degree of departure from individualism.

Consider for a moment some of the activities of government a century ago when the *laissez-faire* policy is supposed to have prevailed. Government restricted the freedom of half of the population by denying to women most of the political and economic rights they now possess. Men were commonly imprisoned for failure to pay debts. A tenth of the population consisted of slaves, the property rights in whom were protected by government. Indentured servants were forced to work for their owners. The right of men to vote and hold public office was often restricted to property owners. Trade unions frequently were illegal. Blue laws, which would not now be tolerated, were prevalent. In the sale of the public domain, government engaged in the real estate business on a grand scale. The protective tariff was not unknown. Government was active in the construction of canals and public improvements. Strange as it may sound to modern ears, in that same period, a century ago, proposals for tax-supported

schools were often denounced as socialistic and meddlesome interference with the freedom of the individual.

Although a comparatively small amount per person was spent by government, these facts suggest that the scope of governmental activity was not particularly narrow. The nature of governmental activities has changed in many respects, and the emphasis upon certain services, particularly education and highways, has greatly increased. To provide good schools and roads necessarily costs more than such activities as restricting the suffrage and permitting slavery.

GOVERNMENT EXPENDITURES

THE GROWTH OF PUBLIC EXPENDITURES

The increase in government expenditures has been truly remarkable. The combined expenditures in 1890 of the federal government, the states and their local political subdivisions approximated 855 million dollars. In 1932, federal, state and local governmental costs were 13.4 billion dollars. Total expenditures in 1942 amounted to 44.3 billion dollars, of which some 26 billions, however, were spent for war activities by the federal government in that year.

The pronounced upward swing in public expenditures has not been peculiar to the United States. It has occurred in large nations and in small ones, under both democratic and autocratic governments, in highly industrialized countries, and in nations that are still

primarily agricultural. The rate of increase, however, has been different in the various countries and at different times. In certain periods, as when a nation is engaged in fighting a war or a depression, public expenditures soar to unusual heights, but experience shows that they very rarely decline to the previous level after the emergency is past. The general trend has continued upward.

FEDERAL EXPENDITURES OF THE UNITED STATES
IN SELECTED YEARS *

(In Millions of Dollars)

FISCAL YEAR		FISCAL YEAR	
1916	\$ 734	1940	\$ 8,998
1919	18,515	1941	12,711
1923	3,295	1942	32,397
1929	3,299	1943	78,179
1935	6,933	1944	93,744
1937	8,177	1945	100,405
1939	8,707	1946	65,019

* Exclusive of debt retirement. Includes federal payments to other governmental units.

Source: U.S. Treasury Department, *Annual Report of the Secretary of the Treasury*, 1935; *Treasury Bulletin*, August 1946, p. 5.

Federal Expenditures. Expenditures of the federal government have risen greatly, particularly during major wars. In the fiscal year ending June 30, 1945, federal expenditures reached the phenomenal height of 100.4 billion dollars. In a single year of the Second World War, the federal government spent as much as it did during the first 139 years of its existence, from 1789 to 1928.

Federal expenditures in the years 1941-1946 totaled 382 billion dollars, or about nine times as much as was

spent in the comparable First World War period. Over ninety per cent of the above total was for war purposes, including both direct costs and "aftermath of war" expenditures such as interest on the public debt and aids to veterans. The indirect costs of the war, of course, will continue for many years.

Although federal expenditures have declined sharply after each major war, the new peacetime level has been much higher than previously. For example, annual federal expenditures were less than three quarters of a billion dollars prior to the First World War, while during the 1920's they averaged about 3.3 billion dollars annually, or more than four times as much. The level of federal spending following the Second World War probably will be above that preceding the war.

Although the peaks of federal spending have been reached in years of war, there also has been great expansion in times of peace. A notable instance occurred during the depression years of the 1930's when federal expenditures were more than double the average level in the preceding decade. Most of the increase was for unemployment relief, public works, aids to agriculture and social security payments.

An important development has been the growth in federal aid to the states and local units. Although they constitute a relatively small part of total federal expenditures, federal grants provide a significant portion of the funds used by state and local governments for welfare and health services, particularly old-age assistance and child welfare, and for construction of highways. For many years federal aid has been given for

certain kinds of education, chiefly in agriculture and home economics. The federal government has borne a minute fraction of the total cost of public education, but there has been a growing sentiment favoring increased federal aid and its use for general education. It is contended that the need for providing greater educational opportunity in many areas of the country is a matter of national concern and requires federal assistance.

STATE AND LOCAL EXPENDITURES IN SELECTED YEARS *

(In Millions of Dollars)

	STATE	LOCAL	TOTAL
1923	\$1,208	\$4,593	\$5,801
1929	1,943	6,720	8,663
1934	2,044	5,621	7,665
1942	5,529	6,377	11,906

* Exclusive of debt retirement.

Source: National Industrial Conference Board, *Cost of Government in the United States, 1933-1935*, p. 4; U.S. Bureau of the Census, *Governmental Finances in the United States: 1942*.

State and Local Expenditures. The growth in the aggregate costs of state and local governments also has been conspicuous, rising from 5.8 billion dollars in 1923 to 11.9 billions in 1942, or doubling in two decades. The increase in state expenditures alone during the same period was nearly fivefold. Much of this growth consisted of expansion of state payments to local units of government. In 1942, expenditures of the state governments amounted to 5.5 billion dollars, but included 1.8 billion dollars of state aid, shared taxes and other payments from state revenues to local governments. Ex-

penditures for education, highways and streets, welfare, social security and health, and police and fire protection have accounted for the major portion of the aggregate cost of state and local government.

REASONS FOR GROWTH IN GOVERNMENT EXPENDITURES

Many factors have contributed to the rise in the amount of money spent by government. The most obvious one is the enormously increased costliness of modern warfare and its aftermath. Also apparent is the ever-growing demand for governmental services, particularly those involving greater expense for education, highways and welfare activities. In addition, there are other reasons for the increased cost of government related to the development of our nation and its economy.

Increases in Territory and Population. The expansion in territory from the thirteen original states to the present boundaries of the United States necessitated larger expenditures. The creation of new states, cities, and other political subdivisions meant more government to operate and finance.

The increase in population also has been an important contributing factor, since more children to educate, more people to use roads and the numerous other government services require a larger amount to be spent by government. Since, with a larger population, there are also more people to earn incomes and to pay for the cost of government services, changes in the amount spent per person are more significant than total expenditures. But government expenditures

have increased more rapidly than the population. The combined expenditures of the federal, state, and local governments rose from \$13.56 per capita in 1890 to \$158.77 in 1940.

Changes in the Price Level. The number of dollars spent by government is affected also by changes in the general price level. If a dollar will buy less, it will take more dollars to obtain a given volume of goods and services.

Public expenditures have mounted with rising price levels but have shown little inclination toward reduction with a fall in the price level. The marked decline in the price level from 1929 to 1933, instead of resulting in a decrease, was accompanied by a conspicuous increase in total government expenditures. Although more goods could be purchased with a given amount of money because of the fall in the price level, the very fact of falling prices, by checking business activity and increasing unemployment, brought new demands upon government that resulted in large expenditures for the relief of distress.

Urbanization. The change from an agricultural to an industrial nation, with the concentration of population in urban centers, brings many problems necessitating larger expenditures. Urban life requires fire and police protection, sewers, paved streets, street cleaning and lighting, garbage collection, and other services that government in a rural community would not need to provide. Urbanization and industrialization consequently increase the per capita cost of government. The table on page 254 indicates a marked tendency for

expenditures per inhabitant in the larger municipalities to be higher than in smaller communities.

The Rise in the Standard of Living. The economic development of the country has been accompanied by a general rise in the level of per capita incomes and the standard of living of the people. The modern

AVERAGE EXPENDITURES PER CAPITA OF CITIES
BY POPULATION GROUPS, 1942

POPULATION	NUMBER OF CITIES	PER CAPITA GENERAL EXPENDITURES
Over 1,000,000	5	\$72.69
500,000-1,000,000	9	62.84
250,000-500,000	23	43.17
100,000-250,000	55	41.23
50,000-100,000	105	35.91
25,000-50,000	200	34.19
10,000-25,000	602	24.16
5,000-10,000	918	18.14
2,500-5,000	1,407	16.57
Under 2,500	12,896	11.22

Source: U.S. Bureau of the Census, *Governmental Finances in the United States: 1942*, p. 8.

economy has generated many problems and conditions necessitating government action, and the higher standards of living in the private economy have brought demands for a higher level of public living. The rise in incomes has made possible the increased expenditures accompanying the elevated plane of both private and public consumption. With the rise in incomes and the standard of living, people have not only more expensive wearing apparel, houses, and home furnishings, but insist upon better schools; they want not only

automobiles but hard-surfaced roads upon which to drive them. They would be no more content now with muddy roads and with the teaching of merely the "three R's" in the little red schoolhouse than they would be with homespun clothing and the horse and buggy.

PER CAPITA INCOME PAYMENTS AND PER CAPITA STATE
AND LOCAL EXPENDITURES IN SELECTED STATES, 1942

	EXPENDITURES PER CAPITA	INCOME PER CAPITA
Arkansas	\$40.20	\$443
Georgia	47.50	503
Kentucky	47.62	467
Mississippi	48.45	391
New Jersey	131.34	1,090
California	158.95	1,205
New York	160.56	1,149
Nevada	165.90	1,429
Average for 48 states	98.79	858

Source: U.S. Bureau of the Census, *Governmental Finances in the United States: 1942*.

In the above table there is a noticeable difference in the average income per person in the four states having the largest, and in the four states having the lowest per capita state and local expenditures in 1942. The higher incomes of the people in the second group of states enable them to spend more for schools, roads, and other government services. The lower per capita expenditures in the first group of states do not necessarily imply that government in those states is more

efficient, or that low expenditures are the consequence of true economy.

The rise in the standard of living has been accompanied by the development of a more humanitarian attitude and a growing recognition of the need for public funds to supplement private charity. This is reflected in the greater public expenditures for relief, old-age assistance, care of dependent children, hospitals and other welfare services. The rise in the standard of living has also been accompanied by inventions and technological changes that have been responsible for an important part of the increase in the expenditures of government. For example, the widespread use of the motor vehicle has been the major factor in the growth of highway expenditures.

C H A P T E R X I I I

The Revenue System

TYPES OF GOVERNMENT INCOME

MOST of the revenue of modern governments is derived from taxes; but, before beginning the discussion of taxation, other methods by which the state has obtained command of goods and services, and certain classes of public revenue that are usually distinguished from taxes, should be mentioned.

A government may obtain rents and royalties for the use of public property and earn interest on securities, loans, and its deposits in banks. Prices are received for the use of public service enterprises such as the postal system, municipal water systems, toll bridges, and irrigation and power projects, and from the sale of certain commodities such as alcoholic beverages sold by government liquor stores in some of our states. In many countries, a portion of the public revenue is provided by the prices received from the sale of lottery tickets and from commodities that are made fiscal monopolies, such as tobacco and matches.

Fines, fees, licenses, and special assessments are other classes of government income that usually are distinguished from taxes. Fines are exacted for violations of laws under the sovereign power of the state to inflict punishment. Fees and license charges are payments to obtain certain privileges that usually confer special benefits to the recipient but the exercise of which must be regulated for the general welfare. A fee is ordinarily charged for such government services as the registering of a deed or the issuance of a corporation charter. A license is necessary for the exercise of privileges like operating a motor vehicle on the public highways, the sale of liquor, entering the state of matrimony, or keeping a dog, and a charge is customarily imposed when the license is issued.

Like a price, a fee or license charge need not be paid if the individual is willing to do without the particular government service or forego the exercise of the privilege. But there is an element of regulation and public purpose in fees and licenses that is usually lacking in government revenue derived from prices. Thus, a man can have but one lawful wife at a time, regardless of the number of marriage licenses for which he is willing to pay. In many states, a person must satisfactorily pass a driver's examination, as well as pay for a license to operate an automobile, and his license may be suspended or revoked for driving while intoxicated and for other reasons.

A special assessment is a compulsory payment to government by the owners of land for the purpose of defraying the cost of public improvements such as the

paving of streets and sidewalks, the laying of sewers, and the opening of parks. They are expected to increase the value of the land and thus confer a special benefit on its owners, as well as a general benefit to the public. Although a special assessment is an exercise of the taxing power, it usually is distinguished from taxes. It is supposed to be proportional to the anticipated rise in the value of the land resulting from the particular improvement for which the money must be used.

THE NATURE OF A TAX

According to the classification of the Census Bureau, about four fifths of the total revenue (receipts from borrowing are not revenue) received by government in the United States is provided by taxes. In the census classification, however, the revenue from certain licenses is included under taxes. There is no completely satisfactory definition of a tax or what constitutes taxation. The definition of a tax which is commonly accepted is that it is a compulsory contribution or payment for the support of government or for other public purposes. According to this definition, a special assessment and various other types of revenue would be taxes.

But the element of special benefit that is characteristic of fees, licenses, special assessments, and public prices is usually lacking in taxes. According to one economist, "A tax is a compulsory contribution from the person to the government to defray the expenses incurred in the common interest of all, without reference to special

benefits conferred.”¹ Nevertheless, because of the manner in which the funds are expended, certain taxes, particularly the gasoline tax and the tax on real estate, have a large element of special benefit, if not to the particular taxpayer, at least to the group paying them. Motorists as a class are especially benefited when the gasoline tax is used to improve the highways. A considerable portion of the property tax is expended by local government for purposes that confer special benefits on real estate owners. Thus expenditures for fire protection are reflected in lower fire insurance premiums.

A tax ordinarily is intended primarily to raise revenue but may be used for other purposes. High taxes to discourage the importation of goods into a country, to curtail the consumption of beverages with a high alcoholic content, to reduce the number of advertising billboards, to check the sale of oleomargarine, limit the growth of chain stores, and for various other purposes, may be so successful in accomplishing their objective that they yield little revenue. On the other hand, motor vehicle, liquor, and many business licenses and corporation fees not only provide a method of regulation but commonly produce far more revenue than the cost of their administration. Sometimes the rates charged by a municipally owned utility are high enough to result in a considerable profit to the treasury and permit a lower tax on property than otherwise would be necessary. When government obtains funds by issuing

¹ Seligman, E. R. A., *Essays in Taxation* (tenth edition), p. 432

paper money and inflating the currency, or by fixing prices to secure profits from a lottery, a fiscal monopoly, or a public service enterprise, or derives a net revenue from licenses and fees, is it not really a form of taxation?

Whether a source of public revenue is called a tax, a special assessment, a license, a price, or something else, its equity as a part of the revenue system, the incidence of its burden, and its economic and social effects are significant in the formulation of public policy. How much tuition and what fees should be charged by public educational institutions; should a particular government service be free, or should a charge that is equal to (or greater or less than) the cost of rendering it be imposed; and when is it justifiable to impose special assessments? These are problems of public finance no less than the question of the kind of tax system desired.

THE PROBLEM OF EQUITY IN THE REVENUE SYSTEM

The citizen does not relish paying for government, but since he knows that taxation is inevitable, he will insist that it ought to be equitable. What part of the cost of supporting government each person should bear and what constitutes equity or justice in the revenue system are highly controversial subjects. At least three principles or theories may be advanced to justify

the fairness of particular sources of public revenue. These are the cost-of-service principle, the benefit principle, and the ability principle.

COST-OF-SERVICE PRINCIPLE

When a man buys a house, a haircut, or a can of beans, he must pay a price that is sufficient to induce someone to sell it to him. He does not expect the seller to vary the price according to the size of his income, the amount of his wealth, or some other index of his ability to pay. Under the price system, it is considered fair that a person should pay for what he gets. It might be contended that this is also a fair principle by which to apportion the cost of government. When public expenditures are incurred to educate a man's children, protect his property, or provide some other service, it may be argued that he should pay for what he gets in proportion to the *cost* of rendering the service.

This theory of apportioning the revenue load is open to serious objections. In the first place, the share of the cost of many government services that can be attributed to a specific person cannot be measured. No cost accounting system has yet been devised that would show just how much of the expenditures for maintaining the army, building the county courthouse, or cleaning the streets was incurred on account of service rendered to one John Jones. The distribution of the revenue load according to the cost-of-service principle is objectionable also because it would prevent expenditures for services that are considered socially necessary and desirable. What would we think of a government that

refused to apprehend a murderer or a kidnaper until someone agreed to finance the cost? A child is not denied the right to attend a public school because its parents cannot afford to pay the cost of instruction. It is recognized that a low cultural level and illiteracy are detrimental to the social welfare. The people would not tolerate the operation of government on the cost-of-service principle and would consider it most unjust even if it could be done.

Although the cost-of-service theory is unworkable and inequitable as a general principle for distributing the *tax* load, nevertheless it has a proper place in the *revenue* system. It is equitable that the license charge for heavy trucks and buses should be higher than for automobiles because the former do more damage to the roads and necessitate larger expenditures for highways than vehicles of lighter weight. It is usually considered equitable to require consumers to pay rates that will cover the cost of the services rendered by a publicly owned utility, such as an electric plant or water-supply system. It is not unjust to charge tolls for the use of an expensive bridge, tunnel, or canal. There are many occasions when a service is rendered the cost of which can be approximated and for which it is not unfair to impose a fee or other charge that covers at least a part of the expense involved.

It might be more equitable to make greater use of the cost-of-service principle in order to lighten the tax on real estate. A charge might be imposed for special police service given to banks, theaters, and other business establishments. The added expense of pro-

viding high pressure water zones to provide fire protection to tall buildings could be charged to their owners. The cost of fire protection to different types of buildings might be shared more nearly in accordance with the expense involved to the municipality, just as fire insurance premiums vary with fire hazards. The man who erects a fireproof building, installs automatic sprinklers, and in other ways reduces fire risks, now is penalized for helping the city to spend less for fire protection because the assessed valuation of his property is increased and he must pay taxes for the maintenance of the fire department out of all proportion to those paid on the type of buildings that have most of the fires.

BENEFIT PRINCIPLE

The benefit received, rather than the cost of rendering a government service, provides a different justification for collecting public revenue. For example, a corporation pays fees and taxes to hold a charter that permits it to do business as a corporation. The amount paid is usually far greater than the actual cost to the state of issuing a charter. But the benefits received from having a corporation charter are sufficiently great that high fees will be paid to obtain one.

It is sometimes maintained that the benefit principle provides an equitable basis for distributing the revenue load among individuals. If one man receives twice as much benefit from government as another, he should pay twice as much toward its support according to this view. But how measure the value of the benefit an in-

dividual derives from government? Protection and education have general benefits to the whole community but how determine the degree of benefit a certain Iowa farmer receives from the navy, or a certain wealthy bachelor secures from the existence of free public schools?

Socially desirable services rendered by government, such as safeguarding the public health, maintaining order, and sanitation, are beneficial to the whole community. Thus, the maintenance of public health by visiting nurses, or by public clinics, is of particular benefit to the individuals who are directly helped by the visiting nurse or who go to the public clinic for treatment. But, in addition, the rest of the community benefits by the better health of their neighbors, and by the reduction in the prevalence of contagious diseases. Similarly, sewers in the less desirable sections of the community reduce the likelihood of epidemics which, if started, might penetrate into areas wealthy enough to pay for their own sanitation facilities. Tax-supported public schools directly benefit the pupils attending them but they also indirectly benefit others by providing a more intelligent and productive population to buy goods and supply labor.

These examples illustrate the futility of attempting to measure the value of the benefit that different persons obtain from government. But even if it could be measured, under the modern economic system with its unequal distribution of income, the collection by government for most of its services according to benefit would be impossible. Study of the data on the personal

distribution of income in the United States discloses the fact that the market appraises so cheaply the services of a large number of the people that their incomes provide only a meager subsistence. It would be impossible to force the low income groups to pay in proportion to the benefits received from government. In fact, a large number of persons with little or no income are supported by government, either in public welfare institutions, or by relief in one form or another.

Justifiable Use of Benefit Principle. Earlier it was pointed out that the cost-of-service principle could not serve as the sole basis of raising public revenue, but that it had certain proper applications in the revenue system. Bridge tolls, postage stamps, and other prices and fees for the use of publicly owned enterprises and government services illustrate the cost-of-service principle. Similarly, while the benefit principle cannot be accepted as a universal principle, it nevertheless has a proper sphere for its application. The benefit principle is invoked to justify such revenues as the gasoline tax, corporation taxes, and special assessments.

Public expenditures for certain kinds of improvements, such as street paving, usually increase the value of adjoining land. Special assessments are levied against the land according to the benefit received by the owners. The amount of benefit is measured by the increase in land values expected as a consequence of the public improvement. When the improvement raises the value of property, it is more equitable to finance its construction by taking the unearned gain through special assess-

ments, than to pay for it by levying a general tax on the whole community.

The gasoline tax and the automobile license tax are justified on the ground that motorists especially benefit from the use of improved roads, and therefore should pay special taxes to construct and maintain them.

The taxes levied on pay rolls for old-age annuities and unemployment benefits under the national social security program are applications of the benefit principle. The pay-roll taxes may be regarded as a compulsory saving by workers for their old age and for the contingencies of unemployment characteristic of modern economic society.

ABILITY-TO-PAY PRINCIPLE

A third basis for raising public revenue is according to the ability of a person to contribute to the support of government. A popular expression is that "taxes should be based on ability to pay." What constitutes taxpaying ability and how can it be measured? In an extreme sense the public revenue collected from any source indicates the existence of ability to pay; otherwise the funds could not be collected. However, no one would contend that all taxes and other sources of public revenue follow the ability-to-pay principle. In fact, because some of them bear so much more heavily on persons with small incomes, they are said to run counter to the ability principle. This suggests that with a tax based on the ability-to-pay principle, the amount of the tax ultimately borne by different individuals would depend on their relative economic positions. That is, a

rich man would pay a larger tax than a poor man.

The Sacrifice Concept of Ability. The earlier subjective concept of the ability principle was one in which the proper measure of a tax was believed to be the amount of sacrifice involved in paying it. One view was that the tax burden should be distributed in such a way that the sacrifice would be equal for everyone. That is, the taxes paid by a rich man should involve the same sacrifice on his part as the sacrifice made by a poor man resulting from the taxes he bears.

Objective Concepts of Ability. As sacrifice is a subjective concept and hence is not amenable to generally accepted standards of measurement, it is desirable to have more objective criteria of ability to pay. There are two distinct aspects of differences in ability to pay taxes. In the first place, the amount that a person has left for personal consumption after he has paid his taxes, or the objective manner in which the taxes affect his standard of living, may be analyzed. For example, taxes aggregating \$100 in a year borne by a man with an income of \$1,000 leave very little for medical and dental care, perhaps nothing for insurance and savings for old age, and may even compel him to deny himself or his family some of the necessities for a reasonable standard of health and decency. Taxes that in the aggregate take ten per cent of the income of a man who has an income of \$1,000,000, on the other hand, may mean simply that he has one yacht instead of two, three motor cars instead of five, and twenty servants instead of thirty.

The second aspect of ability to pay is the objective

fact of whether it is easy or difficult to secure the income. Most of the small incomes are obtained as wages or salaries for labor. After a person has accumulated capital, however, a large portion of his income may be derived from investments, and this enables him to secure more income with less effort proportionately than can be done by the person with little or no capital. Thus, the relatively greater ease in obtaining income by the wealthy, and the less socially harmful effects of taxes on their standard of living, justify the belief that they have more taxpaying ability than the low income groups.

Measurement of Taxpaying Ability. Either the value of a person's riches or the size of his annual net income may be used as an objective measure of his ability to pay taxes. Both the inheritance tax based on the value of the inheritance and the personal income tax based on net income are examples of taxes usually considered to be in harmony with the ability principle. Difficulties in determining the value of a person's wealth or in calculating his net income may be encountered, but either is an objective index of ability. Neither of these bases when used alone, however, is entirely satisfactory as an index of taxpaying ability. This point will be discussed later.²

It might seem that the general property tax is in proportion to the value of a man's property and roughly follows the ability-to-pay principle. In an earlier day this was more nearly true than now. In modern times such a large proportion of property has come to be rep-

² See below, p. 270.

resented by intangible forms of ownership, such as securities of various types which ordinarily escape assessment under the general property tax, that the property tax is not based upon a man's total riches. For example, a farm worth \$10,000 may have a mortgage of \$5,000 against it. Under the property tax, as administered in most parts of the country, the holder of the mortgage is not taxed on the \$5,000 of his riches represented by the mortgage. On the contrary, all of the taxes on the farm are paid by the man owing the mortgage, although his riches include only half and not the full value of the farm. In contrast, the levying of a tax upon an inheritance is more in accord with the ability-to-pay principle than the general property tax, because the value of the riches inherited, whether consisting of property in tangible or intangible form, is used as the measure of the tax.

The amount of a person's riches should not be the sole criterion of ability to pay, since it fails to include taxable ability represented by salaries, fees, commissions, and other income from personal services. A man may have a large income and consequently have ability to pay taxes, although he may own little or no property. Likewise, it is not justifiable to use income as the sole criterion of taxable ability. A man may own stocks which at the time are not paying dividends but which at current market prices are worth millions of dollars. The fact that he has no current income from his riches does not mean that he does not have ability to pay taxes, although he may be forced to sell some of his stocks to do so.

If income is taken as a measure of ability to pay, it is important to recognize that it is not gross income, but net income, that measures taxable ability. Thus, a storekeeper may have gross receipts of \$10,000 in a certain year, but, after the wholesale cost of the goods and other business expenses are deducted, he may have only \$3,000 that may be regarded properly as the income from his business.

Ability to pay taxes depends not only upon the size of the net income but also upon the nature of the income. It is usual to distinguish between income from personal services, commonly called "earned" income, and income from capital investments, or "funded" income. An income of \$5,000 received by an individual solely from labor services does not represent the same taxable ability as an equal sum received by another person from investments. The person without property must save part of his income, if he is to provide for his dependents in the event of his death, and to provide for himself and family against the time when his income will cease as a result of old age, illness, or other incapacity. In contrast, if the person receiving the \$5,000 income from investments dies or is incapacitated, the income will continue, so that there is not the same need for him to save part of his income.

The question arises whether two individuals having the same income have the same ability to pay, if one has a family and the other has no dependents. The personal exemptions in income tax laws take into account the fact that a man with dependents must first support his family and, consequently, has less clear income

left from which to pay taxes. It is recognized that a certain minimum standard of living should be allowed before the individual is required to pay the income tax. Of course, persons not subject to the income tax because of the exemptions do not escape bearing taxes, because some taxes are shifted to them in the prices they pay for goods and services.

*PROPORTIONAL, PROGRESSIVE, AND
REGRESSIVE TAXES*

Tax rates can be proportional or they may be graduated progressively or regressively in relation to the tax base. The tax base may be the assessed value of property as in the property tax, net income as in the income tax, the number of gallons of gasoline sold as in the gasoline tax, the receipts from sales as in a sales tax, and so on. The property tax has a proportional rate, such as \$3.73 per \$100 of assessed valuation, which is the same for all property owners within a given tax district regardless of the amount of property they own. The rate per \$100 of assessed valuation is the same on the carpenter's cottage as on the rich man's mansion in the same municipality. On the other hand, a progressive inheritance tax has rates that are graduated upward in accordance with the size of the amount inherited. Thus, a person who receives an inheritance of \$10,000 might be taxed at the rate of five per cent, while one who inherits \$20,000 might be taxed at eight per cent. If the first person were taxed at a rate of eight per cent and the latter at the rate of five per cent, the rates would be graduated regressively.

The discussion to this point has had to do with the definition of progression or regression of the tax rate in relation to the tax base; but a still more significant meaning of progressive or regressive taxation concerns the amount of tax borne by different persons, in relation to their ability to pay as indicated by the relative size of their riches and incomes. Certain taxes that are proportional, so far as the relation of the rate to the tax base is concerned, are really regressive in relation to ability to pay because they bear more heavily on those with smaller incomes. This is generally true of what are ordinarily called indirect taxes such as the taxes on tobacco and most other taxes the burden of which is shifted to consumers. A two per cent retail sales tax is a tax of two per cent on the purchase price of commodities regardless of the income position of the purchaser. Consequently, although it has a proportional rate, it is regressive in its incidence because of its greater relative burden on persons with low incomes who must spend most of their purchasing power on consumer goods subject to the tax.³

Reasons for Progressive Taxes. In the United States there are two types of taxes in general use which are progressive in incidence: the progressive personal income tax and the progressive death taxes. Most of the other taxes tend to be regressive in their incidence despite the fact that they rarely have regressive rates. If the net effect of taxation is not to be regressive, it is necessary to use progressive income and inheritance taxes to offset the regressive effect of other taxes to

³ For the definition of incidence, see below, p. 278.

achieve even proportional taxation in the tax system as a whole. The use of progressive taxes may be favored by one who believes merely that the net effect of taxation should be proportional. But there are those who believe that if the ability-to-pay principle is followed, not only should some taxes in the system be progressive but the tax system as a whole should be progressive in the distribution of its burden. These points of view depend upon the conception of what is an equitable tax and what is an equitable revenue system; and it is clear, from what has been said, that the question of the equity of a particular tax is not so important as the equity of the revenue system as a whole. A particular tax may be extremely regressive, when viewed alone, but it may be part of a revenue system that on the whole is equitable, since the regressive effects may be counteracted by progressive taxes.

If it is believed that taxation as a whole should be progressive in incidence (that a wealthy person should bear more taxes in proportion to his riches or income than a person with a small income) it should be observed that there is no reliable basis for judging *how progressive* taxation should be in order to be equitable. In fact, the equity of government finance depends not only upon the nature of the revenue system but also upon the way the money is spent. If the money is expended, for the most part, for services that give relatively greater benefit to the lower income groups, taxation in the aggregate need not be as progressive to be equitable as if this were not the case.

There are some who believe that the progression

should be sufficiently great to bring about a redistribution of wealth and income, because of the presumed existing inequitable distribution. There is no doubt that, when taxation as a whole actually is progressive, it tends to reduce somewhat the existing inequalities in the distribution of wealth and income. This is true particularly when the revenue is used largely for expenditures on social services that chiefly benefit the lower income groups. However, progressive taxation need not be used deliberately for this purpose but may be justified as the logical method of taxation resulting from the application of the ability-to-pay principle to secure an equitable apportionment of the tax load.

SOME FEATURES OF A SATISFACTORY REVENUE SYSTEM

Probably no revenue system could be devised that would please everyone. The citizen usually will regard a tax as good or bad depending upon how painfully it touches his own pocketbook. It is always easier to say what a suitable revenue system should be than to devise one that is both practical and equitable.

The first practical test of a sound tax system is fiscal adequacy; it must be capable of producing the amount of revenue needed to support the services that the community decides should be performed by government. Not only must it produce sufficient revenue at the time, but it must have fiscal adequacy from the point of view

of the future. Some taxes, if too heavy, will destroy the base upon which they are levied, and the revenue from them will dwindle. "The patrimony of the State must not be impaired."

The tax system also should be equitable. It has been pointed out that the equity of a particular tax is not as important as the equity of the revenue system as a whole. Thus, although fiscal adequacy and other requirements necessitate the use of some taxes that are regressive in their incidence, this can be sufficiently counterbalanced by progression in other taxes.

A tax law should be as simple as practicable so the taxpayer may easily understand how to determine the amount of his tax and how, when, and where he has to pay it. Modern economic society is highly complex, however, and an income tax law, for example, can hardly be simple and at the same time give an adequate definition of income and description of procedure to be followed in calculating the tax.

It is desirable that the cost of administering a tax should take only a small proportion of the revenue it produces. In some cases, however, a larger amount spent to prevent evasion and to secure more equitable and efficient administration would be better economy.

The revenue system should be flexible, that is, easily adjustable to changing conditions. For this reason it is unwise to embed tax legislation in a constitution.

An equitable and fiscally adequate tax system must be composed of a number of different taxes. It has sometimes been suggested that one tax, such as a tax on land, or a personal income tax, should be used to raise all

the revenue. In view of the large sums required by modern governments, there is no single tax which, with rates that would be at all practicable or politically possible, would be fiscally adequate. Even if sufficient revenue could be obtained from one tax, it would not be as equitable as a revenue system composed of a number of different sources of revenue; because, as emphasized before, there is a proper place for the application of the cost-of-service, the benefit, and the ability principles in an equitable revenue system.

C H A P T E R X I V

Tax Incidence

THE MEANING OF SHIFTING AND INCIDENCE

THE equity of taxation necessarily depends upon the final resting place of the taxes involved, or the *incidence* of their burden. In many cases, a tax is *shifted*, that is, the taxpayer who pays it in the first instance passes the tax along to others who bear its burden in the prices paid or received for certain commodities or services. Thus, the tobacco companies pay the federal tax of seven cents a package on cigarettes, but the tax is included in the price paid for cigarettes by the consumer so that the latter really bears the burden of the tax. The incidence of a tax is upon the person who finally bears it. Sometimes the incidence is upon the original payer of the tax. For example, the poll tax is not shifted but is borne by the person paying it.

As will be shown later, there may be forward or backward shifting of taxes. The burden may be passed forward to the consumer in the form of a higher price

than he otherwise would be required to pay, or it may be shifted backward in the form of a lower price than otherwise would be received. For example, a tax based on employers' pay rolls, under certain conditions, might be shifted forward to consumers and, under other conditions, might be shifted backward to employees in the form of lower wages than they would receive otherwise.

CONDITIONS ESSENTIAL FOR SHIFTING OF TAXES

In order that a tax may be shifted, it is essential that there be a price transaction to serve as the vehicle for the shifting of the tax. Not only must there be a price transaction, but a price must be affected by the tax. *A price must be different from what it would be if the tax were not levied.*

When a tax is shifted it usually causes a price to be changed, but a change in price does not prove that shifting has occurred; and the lack of a change in price does not demonstrate that the tax is not shifted. Other factors may have caused the change in price, or may offset the effect of a tax that is being shifted and cause the price to be the same. But if a tax is shifted, the price must be either higher or lower for the same quality and quantity than it would have been if the tax had not been levied.

Taxes do not automatically shift themselves; it requires positive action, on the part of someone, to pass the load on to another. All who pay taxes may have the desire to shift their taxes, but the conditions must

be such as to enable them to influence price, and there must be the will and capacity to do so. The conditions of supply and demand relating to the price, through which shifting is contemplated, determine whether or not a tax can be shifted. A tax can be shifted only if it affects price; and it can affect price only by influencing either supply or demand.¹

In order that there may be a forward shifting of a tax through a higher price than would exist without the tax, there must be either an increase in the demand or a reduction in the supply as a result of the tax. Since there is no reason why the demand for the thing taxed should increase because of the imposition of a tax, forward shifting must be effected through a reduction in supply resulting from the tax. How is supply reduced by a tax, and under what conditions? In order that a tax shall have the effect of curtailing supply, it must be one that, by increasing costs of production, will affect marginal production. The increase in costs of production, with demand the same, will reduce profits (or increase losses) and may force producers to curtail output, or it may cause some marginal producers to go out of business altogether, thereby restricting the supply. If the tax causes a restriction of supply relative to the demand, a rise in the price of the product tends to occur and the producers may shift all or part of the tax forward to consumers. When producers raise their prices as soon as the tax is imposed, as often happens, the higher price can be maintained provided the supply is

¹ Cf. McIsaac and Smith, *Essential Economic Principles*, especially Chapters IV-VIII, on the relationship between demand, supply, and price.

curtailed to the smaller quantity that buyers will take at the increased price.

Not all taxes have the effect of restricting supply. A tax based on net income is paid only by those producers who have a net income above costs. An excess-profits tax is levied only on firms that have profits in excess of some specified amount or rate. Marginal or no-profit concerns do not pay the tax and continue to produce as much as they would if such a tax were not levied. The fact that their competitors have to pay an income or excess-profits tax is no reason for the marginal firms, which do not pay such a tax, to discontinue or reduce production. If the firms that pay the tax were already maximizing their returns under the prevailing price and cost conditions, the levy of the tax would not affect those competitive conditions. If they attempted to raise prices in consequence of such a tax, they would merely injure themselves by driving business to their competitors who are not paying the tax.

On the other hand, a tax levied on all the firms in an industry, such as a tax on all cigarettes manufactured, affects the marginal costs of all firms and therefore does affect the competitive cost situation in the whole industry. There arises a motive for all producers to revise their output programs in such a manner as to maximize their net returns under the new cost conditions, and there is also a resulting additional pressure upon marginal firms whose costs are now increased. As explained above, when a tax increases the costs of all producers it tends to cause some producers to curtail their output, thus permitting the tax to be shifted, at least in part.

FACTORS AFFECTING TAX SHIFTING

Size of the Tax. Some types of taxes are shiftable under favorable circumstances, but whether they are in fact shifted and the relative ease or difficulty of shifting depend on various factors. A tax of a shiftable type may possibly be shifted fairly quickly if it is a heavy one, while the same kind of tax might not be shifted at all if it were a light one. To be shifted, a tax must be large enough to make worth while the necessary readjustments. If the tax is a small one, it may be less costly for the taxpayers to absorb it, or bear the tax themselves, than to attempt to shift it. Particularly would this be the situation where producers of branded products are sensitive to the influence the rise in prices would have upon the goodwill for which they may be spending large sums in advertising. Similarly, the readjustment of production programs in order to curtail supply and bring about the shift of the tax in higher prices might involve technological or personnel problems that the business enterprise would be loath to undertake for the sake of shifting a relatively small tax.

Size of the Taxable Area. The size of the area to which the tax applies also affects the ease or difficulty of tax shifting. A tax that applies to the production and sale of a product throughout the entire nation is more easily shifted than a similar tax levied by only one or a few states and not by the others. For example, if one coal-producing state levied a special tax on each ton of coal mined, while others did not, it would tend to have the effect of decreasing the amount of coal mined in the

taxing state and of increasing the amount of coal mined in the states without such a tax. The coal producers in the state levying the tax would not be able to raise the price of their coal in competitive markets and would be compelled to readjust their mining to a smaller amount of coal, abandoning less productive mines and devoting their operations only to the more efficient mines where costs of production were sufficiently low to enable them to make profits even after the tax was paid.

Effect of the Tax on Supply. The imposition of a shiftable tax will cause the supply of some commodities and services to be reduced much more promptly than others. In many cases, because of heavy overhead costs and for other reasons, it may take a considerable time to bring about the adjustments in supply necessary to permit the shifting of the tax. In the long run, permitting sufficient time for readjustments in costs through technological or other changes, a tax will tend to be shifted if other conditions are favorable to such shifting. The ease of shifting a tax depends upon the facility with which capital can be withdrawn or put into an industry and the length of time involved in bringing about such changes. When a tax is imposed, it may be borne for a time by the producer because of the difficulty of removing capital from that industry and applying it to uses elsewhere in the economic system.

Effect of the Tax on Demand. Another factor affecting shifting is the degree of change in the quantity demanded resulting from price changes when a tax is imposed. A tax on a product such as salt or tobacco

that has a relatively inelastic demand ordinarily is more easily shifted to consumers than one upon a product that has a highly elastic demand. This is because output must be curtailed more severely when the demand is elastic in order to raise the price sufficiently to shift the tax. The demand for a particular product may be elastic because of the availability of substitutes. If substitutes are readily available for a product that is taxed, consumers will use more of the substitutes when the price of the taxed product is raised.

Use of the Revenue. The revenue produced by a tax may be expended in a manner that tends to increase demand and thus facilitates the shifting of the tax.

An example of this is the gasoline tax, which is generally shifted by producers to the purchasers of gasoline. The spending of gasoline tax funds to improve roads contributed to the increase in the number of motor vehicles, which in turn increased the demand for gasoline, thus making it easier for producers to shift the tax to consumers.

The gasoline tax also illustrates the fact that a tax can be shifted forward, although the price of the product falls instead of rises. With the greatly expanded market for gasoline and the lower costs of producing it, because of technological improvements, mass-production methods, and discovery of new oil fields, the price, including the tax, is less than the price paid for gasoline years ago before the tax was imposed.

TAX CAPITALIZATION

The preceding discussion has been confined to the analysis of the circumstances under which taxes may be shifted through the prices paid or received for commodities and services. The process of tax capitalization may be distinguished from tax shifting, but this also is a method whereby the burden is transferred so that the incidence is not upon the person paying the tax to the government. In certain cases, a tax that is not shifted, in the ordinary sense of the term, has the effect of reducing the capital value of the thing taxed; that is, the tax is capitalized. Thus, as will be shown presently, the property tax on *land* ordinarily is not shifted to consumers, tenants, or wage earners in the form of higher prices for goods, higher rents, or lower wages, but has the effect of tending to cause the value of the land to be less than it would be without the tax.

CONDITIONS ESSENTIAL FOR TAX CAPITALIZATION

The capital value or present worth of an investment is a result of the capitalization of the expected future net incomes to be derived from it.² When a tax reduces the net income it will be reflected in a lower capital value of the investment, provided certain conditions exist. There are four conditions necessary for tax capitalization to occur. First, the thing taxed must be one

² *Ibid.*, Chap. XII.

from which there is an expected series of future incomes. Second, the thing taxed must have a capital or investment value. Third, the tax must be one that is not shifted, so that it constitutes an expected certain deduction from future income. Fourth, the tax must be exclusive or unequal in amount; that is, it must not apply equally or in the same degree to all possible forms of investments. The necessity for these conditions for tax capitalization will be made apparent by an analysis of some examples.

Suppose that a certain type of bond, for example a fifty-year bond of a steel company with a par value of \$100 and bearing interest at five per cent, sold in the investment market at a price of \$100. This means that the purchaser at that price obtains a return of five per cent on his investment. Suppose now that an annual tax equal to one per cent of the par value is imposed only upon bonds. The effect of the tax is to reduce the annual net income from such a bond from \$5 to \$4, and if the prevailing rate of interest remains the same as before, the present worth of this bond would be \$4 divided by five per cent, or \$80. At a price of \$80 for this bond, a purchaser would earn five per cent, but if he paid \$100 for the bond, the yield on his investment would be only four per cent. Inasmuch as he can invest his money in other property or securities that have not been singled out for this tax, he will be unwilling to pay more than \$80 for this particular bond. Note that when he pays \$80 for the bond, he will not bear the burden of the annual tax of one dollar he has to pay upon it, because he has anticipated the future tax payments in

the purchase price of the bond and will realize a rate of return on his investment equal to the rate of return on untaxed investments of similar risk. The holder of the bond at the time the annual tax of \$1 was imposed bears the burden of the tax by losing \$20 on the capital value of the bond.

It is very rare that a government will single out a specific type of security for taxation, but it may make certain securities tax exempt. The capitalization principle explains the fact that when government bonds are tax exempt their market value is somewhat higher in proportion to their yield and degree of risk than would be the case if they were taxable.

CAPITALIZATION OF THE LAND TAX

In practice, the most important example of tax capitalization is the property tax on land. The value of land, like any other income-producing agent, depends upon the capitalization of the future expected income. Suppose there are three lots in the same city, each equally suitable for an open-air parking area for automobiles. The lots are so situated that the composite demand schedule of customers is the same for each lot, and the competitive price for parking is twenty-five cents per day. It is a matter of indifference to patrons on which lot they park their cars. Under these circumstances, conditions of volume of business and costs are such that each lot commands a competitive annual rent of \$500. In other words, the supply and demand situation is such that this would be the annual rent paid for any one of the parking lots.

Let us assume that any other more profitable use for these lots is nonexistent or so far distant in the future that it plays no part in the market valuation that would attach to them; and that the prevailing rate of interest is five per cent. Suppose that one of the lots is tax exempt, and the other two are taxed at varying rates, one at \$100 and the other at \$200 per year. Under these circumstances, the following varying conditions would prevail with respect to these three lots:

LOT No.	ANNUAL TAX	ANNUAL RENT	RENT MINUS THE TAX	CAPITAL VALUE (NET INCOME ÷ .05)
1	\$100	\$500	\$400	\$ 8,000
2	\$200	\$500	\$300	\$ 6,000
3	Exempt	\$500	\$500	\$10,000

The owner of Lot Number 2, paying the \$200 tax, cannot shift the tax by charging more than twenty-five cents for parking. Such a policy would be unprofitable to him because he would lose business to his competitors on the other two lots, and hence he would be worse off if he raised the price than if he kept it at twenty-five cents. It has been assumed that these parking enterprises have already maximized their net receipts under the prevailing conditions of supply and demand with a resulting competitive price for parking of twenty-five cents per day.

Moreover, according to the same assumptions, the owner of Lot Number 2 would not be able to lease it to a person who would pay more than \$500 annual rent, because a prospective enterpriser would choose some other site for a parking business if the annual rent on

this lot were more than \$500. There is, therefore, no way in which the owner of the lot may shift the tax, either to people who park their automobiles on it, or to a tenant who might lease the land. A prospective buyer will take this fact into consideration in the price he will offer, so that the tax will be capitalized as a result of the reduction of the capital value of the lot. Without the annual tax of \$200, Lot Number 2 would be worth \$10,000 ($\$500 \div .05$); but with the tax it is worth only \$6,000 ($\$300 \div .05$). In the same manner, the annual tax of \$100 on Lot Number 1 would be capitalized so that the value of the lot would be \$8,000 ($\$400 \div .05$). At these prices a buyer would receive a return of five per cent on his investment.

Under these conditions, it is interesting to point out that any new purchaser of Lot Number 3 does not benefit by the fact that it continues tax exempt, because by virtue of the exemption the purchase price is higher so that the net yield on his investment will be the same as if he purchased one of the other lots at a lower price. Under competitive conditions, he would have to pay \$10,000 for the tax-exempt lot, \$6,000 for Lot Number 2, and \$8,000 for Lot Number 1; and in each of the three cases, the net yield on his investment would be the same when purchased at these prices. If, after purchasing this tax-exempt lot, its exemption were unexpectedly nullified and a tax of \$100 imposed, its capital value would shrink to that of Lot Number 1, and the owner of the lot at the time of this change would bear the whole tax as a result of tax capitalization. Only a small proportion of privately owned land

is tax exempt, but this is immaterial so far as the capitalization of the tax on land is concerned, since investors can invest their capital in tax-exempt securities. In other words, the property tax on land is exclusive or unequal in that it does not apply to all forms of investment.

Complicating Factors. It must not be supposed that, in practice, tax capitalization is a precise mathematical calculation as in the illustrations above. In a dynamic economy the taxes, as well as other factors that affect the capital value of land or any other investment, are variable, so that an investor cannot be certain what they will be in the future. Changes in economic conditions affecting market prices and changes in the size of the tax will affect the net income and hence the capital value. Moreover, even if the net income were to remain the same, changes in the prevailing rate of interest may occur and these would also affect the capital value. Finally, capital values may be unduly inflated for extended periods by speculative buying and selling, which might well conceal for a time the effect of tax capitalization.

Land may rise in value, despite increases in the tax upon it, because of population growth and other factors that affect its value. But its value, of course, would be even greater if the tax were not levied upon it. An increase in the tax on land may not be fully capitalized because it may be compensated, at least in part, by the benefit to property owners resulting from the expenditure of the money. The revenue may be used for a park, paved streets, or other improvements and government

services that can affect the value of property in the community. If these same improvements and services were provided by raising the revenue from some other tax, the capital value of the land probably would be greater than when they were financed by the tax on land.

THE INCIDENCE OF VARIOUS TAXES

INCIDENCE OF THE GENERAL PROPERTY TAX

The principles of tax incidence will now be applied to an analysis of the incidence of particular taxes. First, the incidence of the general property tax will be examined. This is a tax at a uniform rate in a given taxing district on the assessed valuation of the taxable real and personal property in the district. The incidence of the general property tax is not the same for all kinds of property and is not the same under all conditions. Part of this tax is shifted to tenants in higher rents, part is passed on to consumers in higher prices, part of the tax is capitalized, and some of it is borne by the persons who pay it in the first instance.

Personal Property. The tax on personal property (property other than land and improvements upon it) may or may not be shifted, depending upon the conditions of supply and demand existing at the time. The property tax on a person's household goods, clothing, jewelry, and other personal effects cannot be shifted forward, for there is no subsequent price transaction

through which such shifting could occur. If, however, consumers anticipate the personal property tax and allow their actions to be affected by it, their demand for the taxed articles may be decreased, and the market prices of these articles may be lower than they would be in absence of the tax. If this occurs, the tax may be shifted backward, at least in part. On the other hand, when consumers buy these things, the prices paid for them probably include at least part of property taxes paid by the producers of raw materials, the manufacturers, the transportation companies, the merchants, and any other business enterprisers essential to the production and distribution of the goods.

The property tax on tangible personal property used for business purposes, such as machinery and equipment, materials and supplies, and finished goods, constitutes part of the cost of producing the final product. Ordinarily goods will not be supplied except at a price that will cover the producer's costs, so that normally the tax on personal property used in business is shifted to consumers. This does not always occur in fact, however, because at times the conditions of supply and demand are such that a business enterpriser cannot obtain a price that will be sufficient to enable him to pass on to consumers all of the taxes he pays on tangible personal property.

The general property tax on intangible personal property, such as stocks, bonds, and mortgages, usually has the effect of driving intangibles into hiding so that they are not assessed and consequently not reached by the property tax. The hiding of intangible property to

escape taxation is not an instance of the shifting of a tax, but is an example of tax evasion.

Real Property. The term real property is conventionally used to describe property in land, buildings, and other improvements upon land. It is distinguished from personal property, which consists both of tangible personal property such as the furniture owned by an individual, or the machinery, tools, and equipment owned by a business concern, and of intangible personal property, such as securities of various kinds. The property tax on land tends to be capitalized, while the tax on buildings and improvements, under certain conditions, tends to be shifted to tenants or consumers. When a dwelling is occupied by the owner, there is ordinarily no price transaction through which a shifting of the tax on the building can occur. If a home owner takes in roomers, however, there would be a price transaction and part of the tax on the building might be shifted to them in the rent they pay. The following discussion will first examine the incidence of the property tax on land, both urban and agricultural, and will then turn attention to the subject of the incidence of the tax on buildings and improvements.

Urban Land. It will be recalled from the preceding discussion that the rental value of land is determined in a market by supply and demand like any other price. The size of the tax paid by the owner on a piece of land has no significance to a prospective tenant and does not affect the amount of rent that he would be willing to pay for the use of the land. But it does have significance to a prospective buyer, who ordinarily

will take the tax into consideration when deciding on the price he would be willing to pay for the land.

The tax does not materially affect the supply of land, an important fact with respect to its incidence. In the case of urban land, the use of the land is generally related to its site or location in the city. Regardless of the use to which the land is put, the site itself is virtually perpetual and may be regarded as completely durable. A building lot does not wear out, whereas buildings burn down, depreciate, become obsolete, and have to be replaced if the supply is not to be reduced. A building can be torn down to avoid paying the property tax upon it, but the land upon which it stood remains there to be taxed year after year.

Since the supply of urban land is not reduced by the levy of a tax on it, and since the rent that can be obtained for its use is not increased by the tax, there is no possibility of shifting, but the tax can be capitalized. In other words, the amount that will be paid by a purchaser of the land site tends to be less than it would be if it were not taxed, by the amount of the capitalization of the tax at the prevailing rate of interest.

Agricultural Land. The problem is more complicated in the case of agricultural land, but analysis will disclose that the property tax on agricultural land also is not shifted and results in tax capitalization. Normally, the prices that will be paid for the products of agricultural land are determined in the market by the forces of supply and demand and, unless it can be demonstrated that the property tax causes the supply of agricultural products to be curtailed, the tax cannot be

shifted to consumers. The rent or usance value of agricultural land depends, not only on the prices that can be obtained for the commodities produced, but also upon the location or nearness to market or marketing facilities, climate, fertility (the quantity and quality of the produce the land will yield), and the topographical characteristics of the land. While the supply of land in the geographical sense is comparatively fixed, in the economic sense the supply is not altogether fixed; because, if the fertile qualities of the land are not replaced, if proper drainage precautions are not taken, or if it is neglected in other ways, its economic supply for productive agriculture may be reduced through erosion and soil depletion.

If a general tax were levied on all agricultural land on a per acre basis, for example a tax of \$10 per acre on all land used for agricultural purposes, it would affect the economic supply of agricultural land for two reasons. Some land that had been in use would not be sufficiently productive to be worth keeping in agricultural production and paying the tax on it; and, in addition, some land would not be worth fertilizing and would be allowed to "wear out" by the exhaustion of its fertility. In other words, the supply at the margin would be affected, and (assuming a tariff on agricultural products) the tax would be shifted in the higher prices that would result from curtailed production. However, agricultural land is not taxed in that manner, but according to its assessed valuation, so that the poorer land has a much lower assessed value than the better land. Since the tax on marginal land

is usually so low that it has little effect on the supply of agricultural products, the tax would be most difficult to shift in the price of the product; but it can easily be capitalized in the price of the land, as in the case of urban land.³

Buildings. Inasmuch as buildings and improvements are much less durable than land, as they wear out or are destroyed they have to be replaced in order to maintain the supply. If the supply of buildings and improvements does not keep pace with the demand, the prices of products made in the buildings and the rentals of the buildings will tend to rise as a result of the market forces of supply and demand. There will be a tendency for the improvements and buildings not to be replaced unless the income yielded from new buildings is sufficient to cover all the costs, including the taxes upon them. Hence if a tax is levied, it will tend to cause an adjustment of the supply, over a period of time, to a point where the yield from the buildings and improvements will cover the tax. The tax will thus normally be shifted in higher rents and prices, when there is a price transaction through which this can occur.

It must not be supposed that this shifting operates smoothly and continuously, since obviously it might require considerable readjustment in supply in rela-

³ Poor agricultural land is often overassessed in proportion to its true value in comparison with the assessments on superior agricultural land. This should have the effect of driving marginal agricultural land out of use and thus reducing supply. However, it is doubtful if this effect occurs very much in practice, because of the relative immobility of the farm population and other counteracting factors. Cf. Modlin, G. M. and McIsaac, A. M., *Social Control of Industry*, Chapter XII.

tion to demand that would take time to accomplish. Until these readjustments are made (through permitting existing improvements and buildings to wear out) the tax will tend to be capitalized in the value of the buildings and improvements.

Moreover, the effects of such a tax may be concealed or outweighed by other dynamic factors in the economic situation. In a boom period, the demand might be increasing at such a rapid rate that the tax could be easily shifted currently as well as in the long run. On the other hand, the boom psychology may lead to such excessive construction that after a time the supply of buildings becomes redundant relative to demand, causing rents to fall so that, for a time at least, the tax cannot be shifted. Under such circumstances the tax, instead of being shifted as normally happens in the long run, may easily have the effect, for a time, of reducing the capital value of buildings in the market. Similarly, the conditions of depression and business recession might so alter the demand, because of the doubling up of tenants in living quarters, and the discontinuance of business operations by manufacturing and other enterprise, that the existing supply of buildings would be redundant compared to the demand. The resulting decline in rents would not permit the owners to shift all or perhaps even part of the tax while the unfavorable market situation continued. However, in the long run, the supply of buildings tends to become adjusted to the demand in a manner that permits the shifting of the taxes on them.

INCIDENCE OF A NET INCOME TAX

Personal Income Tax. The personal income tax is not shifted but is borne by the person who pays it. The individual whose income consists of wages or a salary would be unable to obtain a raise in his pay on the ground that he had to pay an income tax. His services are no more valuable to an employer after an income tax has been imposed than they were before. Neither do men, because of an income tax, stop working in sufficient numbers to restrict the supply of labor and raise wages and salaries. Since a tax on personal income from wages and salaries does not affect significantly either the demand for employees or the supply of them, there is no reason to suppose that it can be shifted. Where the individual pays a tax on a personal income from a business or from investments, he cannot shift this tax by charging higher prices for his goods or services, because competition with business enterprisers who are not making as much net profit, and have little or no income tax to pay, would not permit it. If he raised his prices while they did not, he would simply lose business to his competitors and would be in a worse position than if he did not try to shift the tax. For all practical purposes, it is safe to say that the personal income tax is not shifted.

Corporation Income Tax. The incidence of a tax upon corporation net incomes, or a business franchise tax for the privilege of doing business which is measured by net income, is uncertain and controversial. The view presented here is that such a tax is probably borne, at least

for the most part, by corporation stockholders. It might be supposed that a corporation would count as part of its costs this income tax, the same as its taxes on buildings and personal property, which, as we have shown before, are likely to be shifted to consumers. However, there is this distinct difference between the property tax and a net income tax: the former must be paid by all enterprisers, while the latter is paid only by those who have a *net* income for the year. Normally, the competition of the no-profit concerns renders it inexpedient for those making profits to attempt to shift their income tax, either by raising the prices of their products or by reducing the wages of their employees. If they do raise their prices they will only tend to drive business to their competitors, and might be worse off because of declining sales than they would be by refraining from attempting to shift the tax.

Under certain circumstances it may appear superficially that a corporation net income tax has been shifted or partially shifted. If output and prices have not been at the point where they maximize net profits,⁴ the income tax might serve as an incentive to establish a new higher price. Such a situation might exist, for example, if monopolistic power had not been fully exercised in order to charge all the traffic will bear. Strictly speaking, this should not be regarded as tax shifting, for the tax has merely served as the impetus or spur to set a price that more nearly maximizes net returns, which could have been done anyway. The mere fact that an income tax is imposed does not give a business concern

⁴ Cf. McIsaac and Smith, *op. cit.*, pp. 117-162.

whose prices are not regulated by public authority any power to raise prices that it did not already possess.

In the case of public utilities and other types of business, the rates or prices of which are regulated by government, it is possible that any kind of tax may be shifted. This is because all taxes customarily are allowed to be included as costs to be deducted from gross income in determining the rates that will be permitted to be charged to give a "fair" return. Thus, an electric utility may be passing on to consumers of electricity all of its taxes, including the corporation income tax and the property tax on its land, neither of which an unregulated business is normally able to shift. Whether this actually occurs depends upon the rates the public utility commission allows to be charged and upon the demand for electricity at these rates.

When a corporation income tax on a competitive business or an unregulated monopoly has been in operation for a considerable period of time, there is a strong possibility that it tends to be capitalized; that is, it causes the capital values of the corporation stocks to be less than they would be if the tax did not exist.

A prospective investor in corporation stocks looks to the net return upon his investment, in comparison with that which could be obtained if he invested his money in government bonds, corporation bonds, lands, or some other type of investment. Presumably, investors in common stocks expect a differential return on their investment over that which they could obtain from more conservative types of investment. If this differential can be assumed to be fixed by competitive market forces

of supply and demand, the market value of common stocks tends to reflect the lower dividends resulting from the payment of the corporation income tax.

INCIDENCE OF OTHER TYPES OF TAXES

Inheritance and estate taxes cannot be shifted because there is no price transaction subsequent to the tax payment through which shifting could occur. These taxes usually are paid out of the estate before its distribution to the beneficiaries, and the incidence is upon the beneficiaries because there is left to be distributed only the amount remaining after the estate or inheritance tax has been paid.

A large group of taxes, including customs duties, commodity taxes such as those on gasoline, liquor, tobacco, and other products, sales taxes, and taxes based on gross receipts, tend to be shifted to consumers. Such taxes constitute increases in costs that ordinarily affect marginal production, thus tending to reduce supply relative to demand, and hence permitting an increase in price sufficient to shift the tax or part of it. Whether at a given time and place all or part of such taxes are actually shifted depends upon the conditions of the market. In certain circumstances the supply-demand situation may be such that producers find they are unable to raise their prices sufficiently to shift the tax; yet in the long run these taxes rest for the most part on consumers.

Mention should be made of the incidence of certain license charges that are fiscally important in the revenue system. The incidence of motor vehicle licenses

depends upon whether the vehicle is used for pleasure or for a business purpose. The license fee paid by the owner of an automobile for personal and family use is borne by the owner. On the other hand, when the license is for a truck, bus, or other motor vehicle used for business purposes, there is the possibility that its cost may be shifted through higher prices to consumers of the goods produced or services performed by the owner of the vehicle. There are many different kinds of business licenses, but liquor licenses constitute one of the most common types. License charges for the manufacture, distribution, and sale of alcoholic beverages, like liquor taxes, tend to be shifted to the consumers of these products. Liquor manufacturers and dealers cannot continue to pay heavy license charges, any more than they can pay a tax based on the number of gallons sold, unless receipts from sales are sufficient to cover all costs including license charges.

C H A P T E R X V

The Income Tax

A TAX that has become increasingly important in the modern state is the income tax. The federal government and about two thirds of the states have income taxes. In this discussion the term income tax refers to a tax upon or measured by net income, although it is possible to have a tax on gross income, or more properly speaking, a tax on gross receipts. Such a tax is fundamentally different from a tax on net income, however, because it can often be shifted and in effect is more like a sales tax than a net income tax.

There are two general types of net income taxes: the personal income tax on individuals, and the income tax on corporations. The federal government, and most of the states, have both types of income taxes.

PERSONAL INCOME TAXES

The income tax is essentially a modern tax that has arisen with two important trends in economic and

social development. One of these has been the growth of democracy, resulting in opposition to regressive indirect taxes and a demand for taxation according to the ability principle. The other development has been the emergence of the modern economic system with the rise of the corporation and financial institutions, and the growth of industrialism and the credit economy. The need for increased revenues to meet rising expenditures, and the growth of taxable ability represented by the income from intangible property and from personal services have been characteristic features of the development of the modern economy. The income tax promotes the greater use of the ability principle by reaching incomes received from salaries and other payments for personal services and from the possession of intangible property.

THEORY AND ADVANTAGES OF THE PERSONAL INCOME TAX

Every person having taxable ability should help to support his government and should know that he is bearing part of its cost. The National Tax Association's Model Plan for a state and local tax system lays down the following proposition:¹

"Every person having taxable ability should pay some sort of direct personal tax to the government under which he is domiciled and from which he receives the personal benefits that government confers."

¹ National Tax Association, *Proceedings*, 1933. "The Second Report on a Plan of a Model System of State and Local Taxation", pp. 353-420

The personal income tax was recommended to accomplish this purpose for several reasons. In the first place, it is easily made progressive according to the size of a person's net income, thereby applying the ability principle of taxation. In the second place, the incidence of the tax is upon the person paying the tax, so that it is possible to arrange the rate structure in a manner that will achieve the distribution of the burden as intended. In contrast, the incidence of taxes that may be shifted is so variable that the actual distribution of the burden among the members of the community is uncertain. The third important reason for recommending the net income tax is that people know they are paying it, and how much they are contributing, so that they are more likely to be "tax conscious", thereby constituting a desirable check to extravagant government expenditures in a democratic form of government. When most of the revenue is obtained from taxes that can be shifted, the revenue system is likely to be regressive. Furthermore, those who are bearing the tax burden, which is hidden in the prices they pay for goods and services, do not realize how much in taxes they are really paying.

It has been noted that one of the distinct merits of the personal income tax is that it is based upon the ability principle of taxation. If the ability principle is followed consistently it is obvious that the entire net income of an individual, regardless of the source from which it is derived, should be used as the measure of his ability. This is particularly essential to secure equity

when progressive rates are used. Thus, when a certain type of income, such as the interest on government bonds, is exempt from taxation under a personal income tax, some individuals are not treated in the same manner as others who receive their income from other sources but who have the same total net income and the same ability to pay taxes. Likewise, when a state income tax is levied only upon income derived from economic activity within that state, it discriminates against a resident who receives all his income within the state, and favors a resident who receives a large part of his income from sources outside the state. A personal income tax is more in accordance with the ability principle if it is a tax on a person's net income from all sources.

FEDERAL PERSONAL INCOME TAX

A federal income tax was imposed in 1864 during the fiscal emergency occasioned by the Civil War, but it was repealed in 1872. Another federal income tax was enacted in 1894, but was declared unconstitutional by the Supreme Court.² This decision made it necessary to have a constitutional amendment before the federal government could use the personal income tax. The sixteenth amendment to the Constitution was adopted and Congress enacted a personal income tax law in 1913.

Productivity. The amount of revenue produced by the tax has been highly variable. Its yield rose from 68 million dollars in the fiscal year ending June 30, 1916, to a wartime peak of 1,269 million dollars in 1919. In the depression year 1933, the amount collected was as low as

² *Pollock versus Farmers' Loan and Trust Co.*, 147 U.S. 429 (1894)

353 million dollars. The most spectacular increase came during the Second World War with collections rising from 982 million dollars in 1940 to a height of 19,304 million dollars in 1945.

The productivity of the income tax depends upon the amount of income received by the people and also upon the specific provisions of the tax law. The exemptions and deductions allowed and other features of the law determining the tax base (the income subject to the tax), as well as the schedule of rates applied to the taxable income are important causes of fluctuations in yield. Since inception of the federal personal income tax, both the size of the national income and the income tax law itself have undergone numerous and great changes.

Taxable Net Income. Net income for tax purposes is gross income less certain deductions allowed by the act. Certain things, such as gifts, bequests, inheritances, and life insurance benefits are not considered as part of the gross income. Allowable deductions from gross income in computing net income include various items, such as business expenses, gifts to educational or charitable organizations up to fifteen per cent of net income, interest on debts, and amounts allowable for bad debts, taxes, depreciation, and depletion. Expenditures for capital improvements and personal living expenses are not deductible.

After a person's net income has been calculated by subtracting the deductible items from gross income, the personal exemptions allowed to the taxpayer are then subtracted from the net income to determine the *taxable*

income. The law has been changed many times with respect to the personal exemptions allowed. As revised by the Revenue Act of 1945, the personal exemption is \$500 for the taxpayer plus an additional \$500 for each of his dependents. A dependent is defined as anyone earning less than \$500 and relying mainly on the taxpayer for support. Thus, a man with a wife and two children as dependents pays no federal income tax on \$2,000 of his net income.

Rate Structure. The federal personal income tax is a progressive tax; that is, the amount of tax paid takes an increasing proportion, the greater the size of the taxable net income. Progression is obtained by means of graduated surtax rates applied to specified brackets of income. Under the Revenue Act of 1945, surtax rates are graduated from seventeen per cent on the bracket which includes the first \$2,000 of taxable net income above the personal exemption, to a maximum rate of eighty-eight per cent on the highest bracket which includes that part of taxable income in excess of \$200,000. In addition to the surtax, there is another rate called the normal tax. This is a uniform rate of three per cent upon the entire net taxable income, regardless of the size of the income.

Collection. Prior to the Second World War, the size of the personal exemptions and credits for dependents allowed under the federal income tax was sufficiently high so that only one family in twelve paid the tax. The imperative need for additional revenue during the war forced reductions in exemptions and a great broadening of the tax base. Changes in the law, together with the general rise in incomes, caused the number of tax-

payers to multiply manifold. About 47 million individuals filed income tax returns in 1945.

The problem of collecting effectively the much heavier wartime taxes, particularly from the millions of persons who had not paid an income tax before, compelled the introduction of some fundamental and long overdue changes in the administration of the tax. Previously, every person subject to the law was required to compute the amount of tax upon his income and pay the money directly to the collector of internal revenue. The tax upon the income received during the calendar year did not become payable until March 15 of the following year and only a part of the tax had to be paid at that time if the taxpayer chose to pay in quarterly installments. There was a lag of several months between the time income was actually received and that when payment of the tax was required, thus contributing to delinquency in collections.

The Current Tax Payment Act of 1943 initiated a new system, requiring payment upon a more nearly current basis as the income is received, and instituted the plan of collection at source of the income tax on wages and salaries. In order to place collections upon a current basis without attempting to collect taxes for two years in the first year of the plan, a major part of the taxes upon 1942 income was cancelled or "forgiven."

Under the plan of collection at source, employers are required to withhold the tax when paying wages and salaries and to remit the revenue to the Treasury. The amount of tax deducted from each pay check depends upon the size of the compensation of the employee and

the number of his dependents. In the fiscal year 1946, one half of the total revenue from the personal income tax was collected at source under the withholding plan. This method greatly simplifies the task of employees in paying the tax and insures more effective collection of the tax upon income from wages and salaries.

The taxes on income not taxed at source also are collected upon a more nearly current basis. Self-employed persons, such as business and professional men, farmers, and others not subject to the withholding plan, are required to make advance estimates and pay the tax quarterly as the income is received.

A final accounting as to the correct amount of tax occurs after the end of the year. Every person subject to the tax must file a return by March 15 showing taxable income received during the preceding year from all sources, total amount of tax already paid, number of dependents and certain other information. For most of the taxpayers the task of reporting has been made easier by permitting the use of income tax tables and a greatly simplified "short form" type of return.

Capital Gains and Losses. The treatment of capital gains and losses is one of many difficult problems and controversial issues in income taxation. A capital gain refers to the profit arising when an asset which is ordinarily retained as a source of income is sold for more than its purchase price. A capital loss is a loss resulting from such a sale. Capital gains and losses most commonly occur in connection with changes in value of real property and securities.

Should capital gains be included as taxable income

under an income tax? One view is that they are not income but capital and hence should not be taxed as income. Under the British income tax capital gains and losses have been largely disregarded. In the United States, however, the prevailing view has been that capital gains represent taxpaying ability that should be reached by the income tax. The federal income tax law has been changed many times with respect to the particular method of taxing capital gains and allowing deduction of capital losses. Under the 1944 law, short-term capital gains (assets held less than six months) are taxed like other income. Long-term gains may be reduced to the extent of one half of the amount of such gains and included with other income subject to the regular tax at graduated rates; or they may be taxed separately at a maximum rate of twenty-five per cent. Capital losses are afforded similar treatment, except that they are deductible in full only from capital gains; from other income the maximum deduction is \$1,000. The law allows a five-year carry-over of losses for deduction purposes.

The value of a capital asset may change regardless of whether it is sold. The practice has been to tax only "realized" capital gains; that is, those resulting from actual sales. Thus, the application of the income tax to capital gains is avoided if a person retains the ownership of an asset until his death. This form of avoidance might be eliminated by requiring that capital gains be computed and taxed as income when property is transferred at death.

Although capital gains usually represent a real gain or

net accretion to economic power, there are times when an apparent gain is merely an illusion. For example, the gain may be the result of a rise in the general price level so that the purchasing power of the money received from the sale of the asset is no greater than that of the smaller amount originally paid for it.

Tax-Exempt Securities. The sixteenth amendment to the Constitution specifically states that the Congress shall have power to tax income "from whatever source derived." Nevertheless, income in the form of interest paid to the holders of bonds and other securities issued by the states and their local units has not been taxed under the federal income tax law. Because of a series of earlier decisions of the Supreme Court extending as far back as 1819,³ it has been assumed that it would be unconstitutional to tax this source of income. For similar reasons, wages and salaries of state and local government employees formerly were exempt from the federal income tax. A Supreme Court decision in 1939, however, sustained the application of the tax to such income.⁴

There are several billion dollars worth of securities in existence that are exempt from the federal income tax. These now consist almost entirely of state and local bonds, because prior to the beginning of the huge borrowing for the Second World War, the Treasury inaugurated a policy of issuing only taxable federal securities. Formerly, most of the federal securities and some others issued by certain public corporations but guar-

³ *McCulloch versus Maryland*, 4, Wheaton 316 (1819)

⁴ *Graves versus O'Keefe*, 306, U.S. 466 (1939)

anteed by the federal government were exempt or partially exempt from the federal income tax. The tax exemptions were given by Congress to make the securities more marketable and enable them to be issued with a lower rate of interest. In the long run, the amount saved in lower interest charges probably was less than the revenue lost in taxes on account of tax-exemption privilege.

When state and local securities are exempt from the federal income tax, this is really a federal subsidy to the units issuing the securities, since the state and local governments obtain the saving in lower interest charges, while the revenue loss resulting from the exemption is sustained by the federal government.

Tax exemption of government securities is not consistent with the ability principle of taxation and results in unfair discrimination. Interest received from government bonds represents taxpaying ability as much as any other income. A person's total net income from all sources measures his taxable ability. Investment in tax-exempt securities is particularly attractive to those who have large incomes, since it enables them to avoid the higher surtax rates that otherwise would apply.

STATE PERSONAL INCOME TAXES

A few states attempted to use the income tax in the nineteenth century, but the first workable state income tax was that enacted in 1911 by Wisconsin. Since that time, a majority of the states have adopted income tax laws. In several states the "uniform rule" in state constitutions has necessitated a constitutional amendment

before a graduated state income tax could be operated.⁵ The rates of state personal income taxes are usually progressive and relatively low. State income taxes, like other state and local taxes paid, are allowed as a deduction in computing taxable income for the federal personal income tax. Nevertheless, in fixing rates, both Congress and a state legislature should recognize more adequately that the other is also taxing the same person's income.

The problems of rates and exemptions, capital gains and losses, tax-exempt securities, and various other questions exist in income taxation by the states just as in the case of the federal income tax and need not be discussed again here.

Double Taxation. The question might be raised whether the double taxation resulting from the application of both the federal and a state income tax to a man's income constitutes unjust taxation. Double taxation is not necessarily inequitable; in fact, since all taxes usually are paid out of income, double and really multiple taxation is inevitable under a federal system of government consisting of states, counties, municipalities, school districts, etc. Likewise, when a person pays the property tax and also an income tax on income from his property, there is double taxation, but it cannot be contended seriously that this is inequitable. Inequitable double taxation occurs when two or more co-ordinate tax jurisdictions apply similar taxes to the same object. For example, it is inequitable double taxation if one state levies an income tax on the entire income of its residents while other states tax part of this same income

⁵ For a description of the "uniform rule", see below, p. 325.

on the ground that it was earned in those states, as when people have their residence in one state and derive income from employment, business, or property in another.

Either one of two practices could be followed uniformly to avoid unjust double taxation of this kind: all states could tax personal incomes at the residence of the taxpayer, or at the situs of the source of his income. When graduated rates are employed, the residence basis is more in accord with the ability principle, since individuals with the same total income are treated alike. Some states will not adhere to this basis because more income arises in them, received by non-residents, than is obtained by their residents from other states. In general, the situs basis of income taxation is more favorable to the western and midwestern states, while the residence basis is more advantageous, from the point of view of the productivity of the income tax, to the wealthy eastern states. Residents of the latter draw a large part of their income from loans and investments in the other states.

CORPORATION AND BUSINESS NET INCOME TAXES

In this country a large portion of the revenue derived from net income taxes is produced by corporation income taxes. There are many other types of taxes levied on business corporations, some of which are also imposed on other forms of business organization. The

question might be raised whether business should be taxed, especially when there is a personal income tax. As shown in Chapter XIII, the benefit principle has a proper place in the revenue system. It is because the owners of business enterprises derive special benefits from government when exercising the privilege of doing business that the taxation of business is often justified.

Although business income taxes are usually restricted to corporations, it should be obvious that the owners of all forms of business receive benefits from government. Not only the stockholders of corporations, but the owners of other types of business organizations, such as partnerships and individual proprietorships, are benefited by the use of the courts, police and fire protection, the consular service, the numerous activities of the United States Department of Commerce, the existence of improved roads, and many other government services. A stable government is necessary to business. Moreover, business enterprise is responsible in large part for many of the costs of government. It is therefore proper to tax business in order to raise part of the revenue for the support of government.

There are many different kinds of taxes on business and corporations, such as taxes on gross receipts and business license taxes, that are likely to be shifted to consumers in the form of higher prices. When this occurs, the owners of business are not being specially taxed for the benefits they receive but the burden is being borne by consumers. If the justification of taxing business is the benefit principle (and not merely an excuse for getting the largest amount of money in a

manner that will evoke the least amount of protest) the incidence of the tax should be upon the owners of business enterprises.

Because a corporation or business net income tax is based on *net* income, it is often believed that it is to be justified as an application of the ability-to-pay principle. This principle really is inapplicable to the taxation of business. Logically, only *persons* have taxable ability, as all tax burdens are borne by them, and the incidence of all taxes is ultimately upon *persons*. It is misleading, therefore, to speak of the taxable ability of property or business. The graduated personal income tax, and not the corporation income tax, is the tax that follows the ability principle. No corporation income tax has been devised that taxed all the stockholders in proportion to their respective taxable abilities.

FEDERAL CORPORATION INCOME TAX

A corporation income tax law was enacted in 1909 by Congress and was sustained by the Supreme Court. Following the adoption of the sixteenth amendment in 1913, the tax became a part of the federal income tax. Until 1936, dividends received by individuals from corporation stocks were exempt from the normal tax under the personal income tax, but were subject to the surtax. Since that time, dividends have been fully taxable on the same basis as other income.

Question of Progressive Rates. The corporation income tax formerly had a proportional rate; the tax was a flat percentage of a corporation's net income. Since 1935, however, progressive rates have been used. During

the Second World War, the combined rates of the graduated normal tax and the graduated surtax reached as high as forty per cent on corporate net income over \$50,000.

As mentioned above, the ability doctrine has a doubtful place in the taxation of business. By taxing corporations with large net incomes at higher rates than those with smaller incomes, a progressive corporation income tax certainly does not tax according to ability. As the large corporations often have thousands of stockholders with relatively small incomes while a small corporation may be owned by a few wealthy individuals, and since the incidence of the tax is upon the stockholders, the effect of progressive rates is actually regressive taxation in a large proportion of cases.

There may be other reasons, however, for the use of progressive rates. It might be contended that, in order to maintain competition and freedom of individual enterprise, taxation should favor small enterprise at the expense of the large corporations, particularly if the latter have monopolistic power. Second, if large corporations enjoy powers and privileges that place them in an especially favored position for carrying on business, it might be argued that these greater benefits justify a higher tax rate in proportion to the amount of net income. Whether it is sound economic policy to discriminate against corporations with large net incomes is another matter. For example, monopolistic power is not necessarily related to the size of a corporation's net income.

Excess Profits Tax. A tax which has been imposed

twice by the United States as an emergency and temporary war measure is the excess profits tax on corporations. This tax was used during the First World War and repealed in 1921. In the Second World War, the rate of the excess profits tax was as high as ninety-five per cent. A corporation had the option, however, of using either the return on capital investment or its average profits in the period 1936-1939 as the basis for determining the "excess" profits subject to the tax. This option privilege, together with the fact that part of the tax paid was refunded after the war, meant that the excess profits tax was much less severe than the high rate might suggest.

This tax helped to recoup for the public treasury a portion of the abnormal profits resulting from wartime conditions. The combined yield of the corporation income tax and the excess profits tax rose from 1,120 million dollars in 1940 to a peak of 15,883 million dollars in 1945.

After the end of the war, the excess profits tax was repealed and the corporation net income tax rates were reduced. Two other federal taxes on corporations, the capital stock tax and the declared value excess profits tax imposed in 1933, also were repealed.

STATE CORPORATION INCOME TAXES

A corporation net income tax is imposed in a majority of the states as well as by the federal government. In general, a state income tax is levied at a uniform rate, but in a few states progressive rates are employed. The use of a corporation income tax by a state involves the

same problems as in the case of the federal corporation income tax and, in addition, encounters the difficult problem of tax jurisdiction, since business has become so commonly interstate in character. What part of the income of a corporation doing interstate business is it proper for each state to tax?

It would seem reasonable to suppose that each state is entitled to tax an interstate business on the part of its income that is obtained in the state. But how can this be measured? Here is the old problem of each state endeavoring to use a method that will give it the largest possible share of the revenue. Several states may tax the income of the same corporation, with the result that the total amount of income on which taxes are imposed is often larger than the actual net income of the corporation, thus causing inequitable double or multiple taxation. Consequently, some uniform principle or formula should be adopted by the states for allocating to each state the share of an interstate corporation's income that it may tax. This is necessary so that corporations engaged in interstate business will not be discriminated against by being taxed more heavily than a business conducted entirely within a single state.

The adoption by the states of a common formula or rule for the allocation of corporate income would eliminate such discrimination. One rule is to divide the net income of a corporation doing business in more than one state into three equal parts: one third of the income is allocated to the various states according to the proportion of the corporation's tangible property located in each; one third according to the

proportion of the total wages of the corporation that is paid in each; and the remaining third in proportion to the gross receipts from sales in each of the various states. The use of some such rule by all the states with corporation income taxes would avoid unjust double and multiple taxation of interstate corporations.

INCOME TAXES AND THE BUSINESS CYCLE

The yield of taxes on net income, both upon persons and upon corporations, is subject to wide fluctuations with changes in general business conditions and income received. The yield of the federal income taxes declined sixty-nine per cent from the peak reached in the fiscal year ending June 30, 1930, to the low point in 1933, despite changes in the law that were intended to increase the yield. The revenue produced by state income taxes also fell sharply during this depression period. This fluctuation in the yield is frequently used as a criticism of the income tax as a major source of public revenue. Government must continue whether or not the country is suffering from a depression, and indeed, during hard times, it is called upon to assume additional financial burdens to protect the welfare of the community. In a serious depression, at the very time when public expenditures are likely to be heaviest, the income tax tends to dry up as a source of revenue and its fiscal inadequacy accentuates the unbalanced condition of public budgets.

By way of contrast, the property tax, which is levied according to the amount of expenditures authorized, is

praised as being a much more stable revenue producer. The growth in the volume of delinquent property taxes during the depression of the early 1930's indicates that although property tax levies may be maintained, the amount of the tax actually collected in such a period also declines seriously. Nevertheless, the property tax has been relatively more stable in yield than net income taxes. Whether or not comparative stability in the amount of revenue produced by a tax in time of depression is to be considered as a merit, depends upon whether the point of view is that of the budget maker or that of the taxpayer. From the standpoint of those who are paying taxes, the rigidity of the property tax in a depression is a most objectionable feature, while the income tax varies in accordance with their diminished ability to pay taxes.

Money must be provided to meet the expenditures of government during times of general economic distress. The question arises whether it is not better for public expenditures to be financed in part by public credit rather than entirely by taxation at such a time. This question will be considered further in the chapter on public credit. It is sufficient here to point out that the fluctuation in the revenue produced by net income taxes as a consequence of the business cycle, instead of being a defect, may be advantageous to the people, when a proper policy is followed with respect to the use of public credit.

C H A P T E R X V I

Property and Other Taxes

IT is not possible in a limited space to give consideration to all the kinds of taxes. An extended discussion is given to the income tax and the property tax because of the economic importance of these sources of revenue. Some of the other principal taxes in use in this country will also be described briefly. No separate discussion will be given to certain taxes, such as the numerous excise and commodity taxes and customs duties. The tariff is more significant as a regulatory device than as a revenue producer. It may be observed here, however, that a tariff that prevents the importation of goods and affects the prices of domestic goods is really a "hidden tax", or it may be regarded as an unbudgeted federal expenditure in the form of an indirect subsidy or bounty to domestic producers.

THE PROPERTY TAX

FISCAL IMPORTANCE OF THE PROPERTY TAX

The property tax in the United States has always produced far more revenue than any other state or local tax and is appropriately designated as the backbone of the local fiscal system. This tax is not used by the national government, but it is almost the sole tax of local governments in most states and also is still used by many state governments. The property tax provides about one half of the aggregate state and local taxes and about nine tenths of the tax revenue of local governments. The proportion of the aggregate tax revenue of *state* governments raised by the property tax formerly was much greater than now; the proportion has fallen from fifty-one per cent in 1902 to five per cent in 1942. This decline has been the result of the increasing use of other types of taxes by the state governments and also of reductions and, in several states, the elimination of the state levy on general property. The new state taxes have been chiefly highway-user taxes (gasoline tax and motor vehicle license taxes), state income and inheritance taxes, sales taxes, and various taxes on business.

NATURE OF THE GENERAL PROPERTY TAX

In colonial times, it was considered equitable to tax a member of the community in accordance with the amount of land and certain other specified kinds of

property such as the number of horses, cattle, and other livestock that he possessed. As more than nine tenths of the population were engaged in agriculture and as most of the property of the period was tangible in character, this criterion served fairly well to measure ability to pay. The practice of levying taxes upon property of specified types was continued by state and local governments after the formation of the United States. The variety of property continued to become more and more complex, especially with the development of intangible property in the form of securities.

By the middle of the nineteenth century, the property tax had developed into a *general* property tax, instead of a tax levied upon certain specified kinds of property. There was written into most state constitutions what is known as the "uniform rule." The wording varied in different state constitutions but usually was to the effect that property should be taxed under uniform rules according to its true value in money. This assumed that all property would be assessed uniformly and required that a uniform rate of taxation should be applied to property at any particular time by the taxing authority.

ADMINISTRATION OF THE PROPERTY TAX

The first step in the administration of the property tax is the assessment of property, or "listing" it for taxation. The assessor has an assessment book in which he lists the property in his district and enters its description and assessed value. Usually, assessors in the United States are local officials who are popularly elected and,

as a rule, they have had little training or experience to fit them for the difficult task of determining the value of different kinds of property, which often do not have continuous markets. These officials are commonly poorly paid and the job of assessing property is a "side line", while the primary interest of assessors is usually upon making a living at their regular occupations. However, in some communities, particularly the large ones, the assessor is often well paid and competent for the task to be performed.

The second step in the administration of the property tax is the determination of the amount of revenue to be raised from this tax. The local governing body of a municipality annually votes on the amount of money to be expended, and that part of the expenditures not covered by other revenues determines the amount to be raised from the levy on property. This sum, divided by the aggregate assessed value of property in the community, determines the rate of the property tax for the year.

The general method of setting the tax rate may be illustrated by an example. Suppose that a city needs to raise \$1,000,000 from the property tax; that is, this amount of the necessary expenditures for the year is not expected to be covered by other revenues. Suppose, also, that the aggregate assessed valuation of the taxable property in this city is \$50,000,000. The rate is the result of dividing \$1,000,000 by \$50,000,000, which gives a tax rate of .02 (two per cent); or, as usually expressed, the tax is \$2 on each \$100 of assessed valuation. Thus, \$2 per \$100 of assessed valuation is the *rate* of the tax; the

tax levy of the city is \$1,000,000; and \$50,000,000 is the *assessed valuation*. These three terms, the “rate”, the “levy”, and the “assessed valuation”, are the three pillars of the property tax so far as the determination of the amount of tax a property owner must pay is concerned. For example, under the tax rate for the city in this illustration, a property owner having a tract of land assessed for \$600 would pay a tax of two per cent of \$600, or \$12 for the year, to this particular taxing jurisdiction.

However, the total tax rate applicable to this piece of property is a composite of perhaps several different tax rates imposed by different taxing authorities, each calculated upon the same general principles. Not only the municipality, but also the school district, and the county in which the property is located, levy a tax upon it. Perhaps the state and a special district, such as a special fire or lighting district in which this tract of real estate happens to be located, also levy taxes on this property. The aggregate rate of the property tax levied on a particular property is the sum of the rates of the various taxing jurisdictions that levy the tax.

The final step is the collection of the property tax. This is commonly done by another local official called the tax collector who also is usually popularly elected. He sends out the tax bills, receives the taxes and pays over the money to the proper officials of the various taxing jurisdictions. If, for example, the total tax rate is \$4 per \$100, of which \$2 is for the city, \$1.50 for the school district, \$.35 for the county, and \$.15 for the state,

the revenue is distributed in these proportions to the city, the school district, the county, and the state.¹

DEFECTS OF THE GENERAL PROPERTY TAX

Certain assumptions are implied in the theory of the general property tax as a method of raising revenue. First, it is assumed that the ownership of property is a proper measure of ability to pay taxes. Second, it is assumed that a uniform proportional rate should be applied to all types of property. Third, it is assumed that all kinds of property actually will be listed and assessed uniformly for taxation and that the tax will be collected.

Contrary to Ability Principle. Under modern conditions, as shown in the discussion of the principles of equity in taxation, the ownership of property is defective as an index of ability to pay taxes.² Property is only one source of income, and the person who receives income from wages and salaries, professional income, business profits, and interest, has ability to pay taxes, although he may own little or no property listed on the tax rolls. On the other hand, a person may own a farm or his home and have little income out of which to pay taxes. Because of defects in the assessment of property, the property tax is not even a proportional tax but is commonly regressive in its results. This is because in practice small properties tend to be assessed

¹ This description of the administration of the property tax is intended to show the principles involved and does not mean that the same methods are used everywhere. In several states, for example, there are county assessors and county collectors of taxes.

² Cf. above, pp. 269-270.

at a higher proportion of their true value than large properties. The local assessor has a more accurate conception of the market value of a modest residence or a farm than he does of a factory, an electric plant, or a wealthy man's country estate. Frequently local chambers of commerce or other business organizations contrive to obtain more favorable assessments on business property in order to attract manufacturing or business concerns to the town. Whether it is the consequence of political pressure, favoritism, ignorance, inertia, or what not, it is a well-known fact that often there are great inequalities in the assessments on property resulting in unjust discrimination.

Unjust Double Taxation. The theory of the property tax that all kinds of property in a taxing district should and can be taxed at the same rate is unsound. When both tangible and intangible property are taxed at the same rate it results in inequitable double taxation, because there is a confusion between property rights and wealth. When a farm worth \$10,000 is taxed on its value and also a mortgage on it of \$6,000 is assessed for taxation, an attempt is being made to tax \$16,000 worth of property whereas only \$10,000 actually exists. The farm owner has not \$10,000 of property, but only \$4,000 by virtue of the mortgage claim against it of \$6,000.

The development of the corporate form of business organization has made the *general* property tax an anachronism in modern economic society. Here also there would be unjust double taxation if both the tangible property of corporations and the corporate securities that represent the ownership of this property

were taxed at a uniform rate. When the rate of the property tax is as high as \$4 on \$100 assessed valuation, as it often is, it would confiscate the entire income of a bond yielding four per cent interest. Intangible property cannot, and in fact usually does not, bear the high rates of the property tax commonly in effect. Intangible property simply escapes the tax by the fact that it is not listed on the tax books, and this is virtually the result of an accepted connivance in evasion. As the tax rate has risen with the progressive development of community life and the consequent increase in expenditures, the greater has been the incentive to hide intangible property from the assessor to escape the tax. At the same time this has meant the rate must be higher on the tangible property which cannot thus escape.

Failure to Tax Personal Property. Not only does the general property tax fail to reach the taxable ability represented by the ownership of intangible property of most types, but its administration with respect to tangible personal property is typically a farce. For example, watches and clocks as well as all other types of personal property are supposed to be taxed as personal property under the general property tax. In Cook County, Illinois (in which Chicago is located) 7,571 watches and clocks were listed in 1867, and only 6,281 in 1927, or one timepiece in a modern metropolis for every 450 inhabitants! Nearly everyone tries to have as small an assessment as possible with the result that the general property tax has encouraged perjury and cor-

ruption, and has caused a great amount of injustice to those who are scrupulously honest or are too ignorant or helpless to escape. In most communities where tangible personal property is still taxed under the general property tax, arbitrary rule-of-thumb methods have come to be applied in determining the value of such property, commonly without even a visit by the tax assessor.

Despite the immense growth in the aggregate value of personal property, the proportion of taxes derived from its taxation is so small that the so-called general property tax has become practically limited to a tax on real property or real estate. In the State of New York this situation has been recognized by law, and all personal property has been exempted from the property tax. Other sources of revenue, such as an income tax and business franchise taxes, are used to reach the taxable ability represented by the ownership of personal property.

Inequalities and Discriminations in Assessments. Inequalities and discriminations in assessments also constitute a major defect of the property tax as it is ordinarily administered in the United States. Real estate and other property is rarely assessed at its true value. True value is usually defined in state tax laws as the price that would be determined in an exchange between a willing buyer and a willing seller. In the case of many types of real property, particularly large properties such as industrial plants and railroads, there are often no market prices to guide the assessor for the reason that

such properties are rarely sold. It is a difficult task to determine their full value, even when the assessor is competent and well trained.

In addition to the difficulties inherent in the assessment of property, there is a constant inducement to underassessment. Competitive underassessment exists between taxing districts in an effort to reduce the amount of taxes to be paid by the local community to the county, and to the state where there is a state levy on property. If the assessor in one community assessed all the property at its full value, that community would pay a disproportionately large share of the county and state taxes on property, if at the same time the assessors in other communities assessed property at much less than full value. In some states, the inducement to competitive underassessment is checked by boards of equalization that attempt to determine each local tax district's proper proportion of the county and state levies on property.

Frequently there is unjust discrimination resulting from the fact that some property is assessed by local assessors and other property is assessed by the state. For example, railroad property may be assessed by the state tax department and taxed at the average rate in the state on other property assessed by local assessors. If railroad property is assessed at full value while other property is typically underassessed, the taxation of railroad property is heavier than the taxation of other property in the state. In addition to these types of discrimination, there is frequently gross discrimination in individual assessments on property assessed by the same local

assessor. Some property may be assessed at approximately full value, while other property in the same tax district is often assessed at only a fraction of its value. When the same tax rate applies to both, the tax is disproportionately heavy on properties that are assessed at a higher proportion of their full value.

REFORM OF THE GENERAL PROPERTY TAX

Various attempts have been made to make the property tax more equitable and more easily administered. One of the first reform measures was the removal of certain types of business, such as banks and insurance companies, from taxation under the general property tax and the adoption of other taxes to reach those sources. Railroads, and sometimes public utilities, are removed from the jurisdiction of the local assessor, for taxing purposes, and placed under state authorities, either to be taxed by some other type of tax, or to have their assessments under the property tax fixed by a state official. Recognition of the difficulty of reaching intangible property has resulted in many states in the exemption of mortgages and other intangibles from the general property tax. In several states a classified property tax is in effect, under which intangibles are taxed at a special low rate, in the attempt to prevent them from evading the tax altogether. In others, the income from intangibles is taxed and no attempt is made to tax them as property.

The problem of inequalities in assessments has given rise to attempts to equalize assessments and to remove unjust discrimination. Local, county, and state boards

of appeal to hear complaints from taxpayers have been created in most of the states to mitigate the inequalities that exist in assessments. It is assumed that those relatively overassessed will appeal for readjustment of their assessments and secure just treatment instead of being discriminated against.

One method of reform, which has been tried in a number of states, is the separation of state and local revenue sources. The state levy on general property was discontinued with the idea that this would remove the incentive for competitive underassessment among local assessors. This was not successful in the purpose stated because there still remained the county levy to serve as an inducement to competitive underassessment.

The assessment of property is such an important and difficult task that the real remedy for inequalities in assessment is the selection of capable assessors, removed from political and local pressure groups. They should be employed on a full-time basis and adequately paid for the performance of their duties. They should be selected on the basis of merit, work under the direction and supervision of the state tax department, and should be provided with adequate facilities for performing their work. The salary should be sufficient to secure able men, and the assessment area should be large enough for an assessor to devote his full time to the assessment process. When correct assessments are made at the time property is listed for taxation, inequalities and discrimination will be eliminated much more effectively than by any complicated system of equalization tables and boards of appeal to hear complaints.

OTHER TAXES

DEATH TAXES

The inheritance tax is one of the oldest forms of taxation. It was used in the ancient civilizations of Egypt, Greece, and Rome, and it had its counterpart in one of the feudal reliefs or payments throughout the Middle Ages. The inheritance tax is relatively new in the United States. New York State adopted an inheritance tax in 1885 and other states followed, until now every state with the exception of Nevada has an inheritance or estate tax. Since 1916 there has been a federal estate tax. The federal, and most of the state death taxes, have progressive rates.

The inheritance tax is a levy upon the amount of the inheritance that a beneficiary receives. The estate tax, on the other hand, is a tax levied upon the whole estate regardless of the amount inherited by any particular beneficiary. The estate tax has the advantage of greater simplicity of administration but is not as equitable as the inheritance tax. The principle economic justification of death taxes is that a person inheriting wealth has a special ability to pay taxes. The inheritance tax is more clearly in accord with the ability principle because the tax is based on the amount that a beneficiary receives, whereas the estate tax is not. A large estate is taxed at the higher rates but some of the beneficiaries may receive relatively small inheritances from it. They may bear a heavier tax in

proportion to the sum inherited than one who inherits a larger amount from a smaller estate which is taxed at a lower rate under the estate tax.

State inheritance taxes are usually graduated according not only to the size of the inheritance but also to the degree of relationship of the beneficiary to the decedent. The tax on the inheritance of a widow or child is at a lower rate on a given amount than upon the inheritance of a distant relative or an unrelated person, to whom it is often a "windfall."

To avoid the payment of a state inheritance tax, many wealthy persons formerly established their legal residence in a state that did not have a death tax. The incentive for this practice was largely removed in 1926 when Congress provided that an amount equal to eighty per cent of the federal tax payable on an estate could be retained by the state of residence of the decedent if it imposed a death tax.³ The federal estate tax applies to residents in every state, so that there is no longer any material advantage, so far as death taxes are concerned, in having legal residence in any particular state.

There has been a serious problem of unjust double and multiple taxation of inheritances by the states. Often several states would impose their taxes on the transfer at death of the same fortune and these would sometimes take so much that little was left for the heirs. One state would levy its inheritance tax because the decedent had his residence there; another state, because

³ Since 1926 the federal estate tax rates have been increased. The eighty per cent refund clause applies only to that part of the federal estate tax payable under the 1926 rates.

property of the decedent was located in it; and still another state would tax the inheritance on the ground that it was the state of incorporation of a corporation in which the decedent owned stock. The situation became so disgraceful that most of the states amended their inheritance tax laws to avoid unjust double and multiple taxation.

A method of evading inheritance and estate taxes has been to give away one's wealth before death. To forestall evasion by this method the federal government imposes a "gift tax" which, although the rates are somewhat lower than those of the estate tax, greatly minimizes the advantage of giving away one's fortune before death to avoid the federal estate tax.

HIGHWAY-USER TAXES

The most important special taxes on highway users are the motor vehicle license tax and the motor fuels tax, commonly called the gasoline tax. The motor vehicle license was first introduced by New York State in 1901. At first the license was considered merely a regulative device, but the states soon discovered it was a lucrative source of revenue. Usually the charge for a motor vehicle license is based upon the weight of the vehicle but sometimes other factors such as horsepower and carrying capacity determine the amount to be paid. Ordinarily, there is a higher charge for a license for trucks and buses than for ordinary passenger automobiles.

The gasoline tax was first imposed by Oregon in 1919, but now every state finds this an important source

of revenue. At first the tax was only one or two cents a gallon but the rate is now three cents or more a gallon in most of the states, and in some it has been as high as seven cents. In addition, there is a federal gasoline tax and in a few states local government units also are permitted to tax gasoline.

Although the gasoline tax measures fairly well the degree of use of the highways, it needs in conjunction with it a motor vehicle license tax, with rates adjusted so as to increase the amount paid by the owners of heavy vehicles. These vehicles are responsible for highway costs that are not sufficiently compensated by the amount of gasoline taxes paid.

Special taxes on motorists in the United States produce a very large amount of revenue, but this falls far short of meeting the total public expenditures on highways and streets. The justification of these taxes is that motorists derive special benefits from improved roads and are largely responsible for the heavy expenditures that must be made for their construction and maintenance.

There is no general agreement as to what proportion of the cost of highways motorists should pay in special taxes. Although highway users receive special benefits from improved roads, they do not receive all of the benefits and should not be required to pay all of the cost. Good roads and paved streets benefit the entire community and commonly increase the value of land, thus justifying the use of revenue from general funds, special assessments, and the property tax to meet part of the heavy expense of modern highways. It is difficult

to demonstrate how much of the cost should be covered by highway-user taxes, but there is reason to believe that in many states property owners are still paying too large a share of the cost of roads and streets.

In general, the revenue produced by motor vehicle license taxes and gasoline taxes is devoted to expenditures for highways, but several states have diverted part of these revenues to other purposes. This diversion to non-highway purposes is often condemned on the ground that if the benefit principle is the justification for these taxes, the revenue should be used for highways. The federal gasoline tax is not earmarked for highway expenditures. On the other hand, the large annual payments to the states as federal aid for highways are provided from general federal revenues.

THE GENERAL SALES TAX

A tax on the sale of a commodity such as gasoline or tobacco, strictly speaking, is a kind of sales tax but is usually known as a commodity tax. The sales tax has come to mean a tax on the sale, not of certain specified commodities, but of goods in general. It can be a tax on the sales of manufacturers, a tax on sales by retailers, or a general turnover tax on all sales.

General sales taxes have been an important source of revenue in many other countries but were practically unknown in the United States before 1930. Unsuccessful attempts have been made at various times to force the adoption by Congress of a national sales tax. During the depression of the early 1930's, the

fiscal emergency resulted in the adoption of some kind of general sales tax by a majority of the states. Some of these have been discontinued, but in about half of the states the sales tax has been retained as a permanent source of revenue.

The most common type of sales tax used by the states is the tax on retail sales of tangible personal property. It is often called a consumers' sales tax, although the incidence of any kind of sales tax is likely to be on consumers. The most usual rate of the tax is two per cent of the receipts from sales, but in a few states the rate has been as high as three per cent.

The sales tax has the merit of being an effective revenue producer. The chief criticism of the sales tax is that it is regressive, as it bears much more heavily upon people with relatively low incomes. The exemption of food sales would considerably lessen the degree of regressivity of the sales tax, because those with relatively small incomes must of necessity spend a larger portion of their income for food. Only a very few of the state sales tax laws, however, have exempted sales of food from the tax.

It is pointed out in Chapter XIII that a particular tax is not to be condemned necessarily because it is regressive, since the equity of the revenue system as a whole is much more significant than that of any one tax. Whether it is equitable to have a sales tax as part of the revenue system depends upon the extent to which the effects of regressive taxes are counteracted by progressive taxes, and upon how the money is spent by government.

C H A P T E R X V I I

Public Credit

GOVERNMENTS may obtain command of purchasing power not only by taxation but also by public borrowing. Government receipts from borrowing enable expenditures to be made in excess of current revenues, but the debt thus created necessitates the collection of taxes to pay the interest charges and also to repay the principal, if the debt is paid off.

UNIQUE FEATURES OF PUBLIC CREDIT

The same basic principles underlie public credit that are at the foundation of private credit. The ability of governments to borrow and the rate of interest that must be paid depend upon the conditions affecting the supply and demand of loans. However, there are certain features of public credit that distinguish it from private credit.

A national government has control over the monetary system of the nation, a fact that sometimes is highly significant in connection with its role as a

debtor. For example, in the United States monetary legislation was enacted in 1933 and 1934 to check the depression and raise the general price level. The dollar was devaluated to 59.04 per cent of its previous gold content, and the gold clause was abrogated in all private and public debt contracts specifying payment of interest and principal in gold dollars of a given weight and fineness. To the extent that such a policy results in a higher price level, the government, like any other debtor, is enabled to pay its debt in dollars of less purchasing power. A national government, unlike a private borrower, by changing the value of its monetary unit in effect changes the burden of all outstanding debts, simply by changing the yardstick by which they are measured. The extreme inflation in Germany in the period following the First World War practically wiped out the public debt. Likewise, the devaluation of the franc, in effect, eliminated a major part of the French national debt.

A national government that has difficulty in borrowing from voluntary lenders may introduce some form of compulsory loans. It may, as a last resort, issue paper money which must be accepted in payment for goods and services. When a government issues a large quantity of fiat paper money, this is a forced transfer of purchasing power without the payment of interest.

In most private borrowing, the borrower is obliged to pledge collateral, and in addition, laws governing private contracts enable the creditor to enforce payment by the debtor. But when a government borrows, the power of taxation is usually the only security for the

payment of interest and principal. If there is a default, or a repudiation of a debt by a sovereign state, the lender cannot enforce foreclosure proceedings on the government and take over sufficient assets to reimburse him for his loan, as in the case of private debts. However, under certain circumstances financially weak governments may be required by the creditor, as a condition in obtaining a loan, to specify that certain revenues, such as receipts from customs duties, shall be pledged for debt service.

A sovereign state cannot be sued without its consent or put into receivership for bankruptcy because of failure to pay interest or principal on its debt. But a political subdivision of a state, such as a city or a county, can be sued by a bondholder for failure to fulfill its debt obligations. While local government units are legally wards of the state in which they are located, the state is not responsible for their debts. In some instances, however, a state government has recognized a moral obligation to the bondholders of its defaulting local units and has provided for the payment of the defaulted debts of its wards, but it could not be compelled to do this.

SOME FALLACIES CONCERNING GOVERNMENT BORROWING

One of many fallacious ideas is that public borrowing is a direct creation of wealth. The government prints its bonds, which become valuable property and constitute part of the riches of those who own them, thus apparently creating wealth. This is not creation of wealth, but merely a transfer by lenders of claims to

the wealth, just as when a mortgage is placed on a piece of real estate. Whether or not government borrowing ultimately results in the creation of wealth depends upon the manner of using the funds. For example, war borrowing is a method of assuring the destruction of wealth; but, on the other hand, government borrowing in order to build a concrete highway or an electric power plant can result in increased wealth in the same way as if these improvements were made by private enterprise.

There is also the naïve belief that borrowing is a painless method for a government to obtain funds for public activities of various sorts, and that the supply of government credit is somehow inexhaustible. No government possesses an Aladdin's lamp capable of such magic. As a matter of fact, public credit, as well as any other type of credit, has to be carefully protected. Many governments have found to their sorrow in times of stress that their credit has disappeared because of lack of adequate tax resources to serve as a financial basis for public credit. The idea that borrowing is a painless method of government financing is true in the sense that borrowed money is "easy money"; but the additional taxes for debt service are far from painless.

Another type of fallacious reasoning results from the observed fact that the rate of interest on bonds of governments in good credit standing is usually lower than that on private borrowing. Because a government can borrow for perhaps four per cent, whereas an individual must pay more, perhaps six per cent, it is

alleged that the difference indicates the gain from the use of public credit. It is assumed that when the taxpayer uses funds, he can earn at least six per cent on his investment. When the government borrows, at perhaps four per cent, the money that otherwise would have been collected in taxes remains longer in the possession of the taxpayers, where it supposedly will "fructify" at the higher rate of six per cent. One obvious defect in this reasoning is the simple fact that there must be a lender as well as a borrower. If funds are always worth six per cent to the taxpayer, why does anyone ever buy government bonds bearing only four per cent interest? In the loan and investment market the difference in risk in different types of investments is taken into consideration by prospective investors and reflected in the rate of return.

PUBLIC DEBTS IN THE UNITED STATES

Spending in excess of the revenues collected has resulted in the accumulation of an amazing volume of governmental debt in the United States in the twentieth century. The gross public debt outstanding, of all units of government, was 3.4 billion dollars in 1902. The total was 275.2 billion dollars on June 30, 1945, of which 94 per cent was federal debt. In 1902 governmental debt was equal to \$43 for each person in the United States, while in 1945 the per capita debt was \$1,971. The volume of public debt also has grown much more rapidly than the national income. Governmental debt in 1902 was a sum equal to only 16 per cent of the national income. In 1945 it was equal to 172 per cent of the national

income, although the latter had reached a war boom height of 160 billion dollars.¹

The Federal Debt. The following table shows great changes in the size of the federal debt since 1916.

FEDERAL DEBT OF THE UNITED STATES
IN SELECTED YEARS

(In Millions of Dollars)

END OF FISCAL YEAR	TOTAL GROSS DEBT	END OF FISCAL YEAR	TOTAL GROSS DEBT
1916	\$ 1,225	1941	\$ 48,961
1919	25,482	1942	72,422
1930	16,185	1943	136,696
1935	28,701	1944	201,003
1940	42,968	1945	258,682
		1946	269,422

Source: U.S. Treasury Department, *Annual Report of the Secretary of the Treasury*, 1935; *Treasury Bulletin*, August 1946, p. 22

Before the United States entered the First World War the federal debt was relatively insignificant, but by 1919 it had mounted to the then unheard-of height of 25.5 billion dollars. Thereafter, there was a steady retirement of the federal debt until by 1930 it had been reduced to 16.2 billion dollars. This repayment of 9 billion dollars of government debt in a decade was a remarkable record, and it was accomplished in spite of the fact that the rates of the federal income tax were reduced and the personal exemptions raised.

In contrast, after 1930 there was a long period of successive annual deficits and an enormous rise in the

¹ U.S. Bureau of the Census, *Governmental Debt in the United States: 1945*, pp. 4, 5

federal debt. During the depression period these deficits averaged about three billion dollars annually and resulted in increasing the debt to nearly 43 billion dollars by 1940. The borrowing was for the purpose of providing funds for relief, public works and other measures intended to assist economic recovery. This expansion of the federal debt by 27 billion dollars in time of peace was unprecedented, since practically all previous federal borrowing had been for war purposes.

Following the outbreak of the war in Europe in 1939, the United States began spending heavily for national defense and the size of the deficits rose sharply. After our entry into the war in December 1941, the volume of federal borrowing in the next few years was on a scale dwarfing that of the First World War. Despite phenomenal increases in revenue collections, the annual net deficits were 50 billion dollars or more in the fiscal years 1943, 1944, and 1945. Although hostilities ceased in August 1945, the deficit for the year ending June 30, 1946, was nearly 22 billion dollars and the federal debt then stood at a height of 269.4 billion dollars.

The computed annual interest charge on this debt was 5,351 million dollars and the computed average interest rate was 1.996 per cent. The average interest rate was only half as large as that on the money borrowed for the First World War, although the amount borrowed in the Second World War was many times greater. Interest rates on government securities had fallen greatly during the depression of the 1930's and continued at a low level throughout the war period. Another reason the average interest rate on the debt at

the end of the war was as low as two per cent was the large proportion of the debt consisting of short-term securities bearing much lower rates of interest than long-term bonds. About 29 per cent of the debt was in the form of notes, Treasury bills, and certificates of indebtedness.

The avowed policy of the Treasury was to do as much of its war borrowing as possible from non-inflationary sources. Nevertheless, despite strenuous efforts to encourage individuals and other non-bank investors to buy federal securities with their savings, more than a third of the war borrowing had to be obtained from banks. According to estimates of the Treasury Department the ownership of the federal debt in June 1946 was distributed as follows: banks (commercial and Federal Reserve), 40 per cent; governments (federal agencies and trust funds, state and local governments), 13 per cent; individuals, 23 per cent; other investors (insurance companies, mutual savings banks, other corporations and associations), 23 per cent.

A major part of the federal securities sold to individuals consisted of discount bonds, a new type of which the Series E United States War Savings Bonds were the most popular. These were non-negotiable but could be redeemed at the option of the holder. If held until maturity at the end of ten years, the interest received at that time represented an annual yield of 2.9 per cent on the purchase price. A common practice during the war was the purchase of these bonds by workers under a savings plan whereby their employers made regular deductions from pay for this purpose. Many persons, however,

"cashed" their bonds instead of holding them as savings. A total of 43 billion dollars of Series E war bonds had been sold by June 30, 1946, of which 29 per cent already had been presented for redemption.

In addition to the debt consisting of its own obligations as shown in the table on page 346, the federal government had contingent liabilities in the form of bonds guaranteed by it, but which have been issued separately by certain government corporations. The amount of these guaranteed obligations reached a total of 6,360 million dollars in 1941, but it was only 467 million dollars on June 30, 1946. Most of the guaranteed obligations have been issued by the Federal Farm Mortgage Corporation, the Home Owners' Loan Corporation, the Reconstruction Finance Corporation, and the Commodity Credit Corporation. As the borrowers from such agencies repay their loans, the guaranteed securities are liquidated.

State and Local Debt. Most of the debt of the states and their local units has been incurred for capital outlays such as the construction of highways, school buildings, water systems, and various other capital improvements. The total state and local net debt (gross debt less sinking fund assets) in 1945 was 14.7 billion dollars. Nearly one half of the local debt consisted of debts of city governments and half of the latter was for municipally owned enterprises. It must be remembered, of course, that there are great differences in the situation of particular communities, ranging from some that are heavily in debt to others that are free of debt.

In the past quarter century the trend in the total

amount of state and local debt has been very different and often has been the reverse of that of the federal debt. The latter was reduced by a third during the 1920's while the former practically doubled between 1922 and 1932. In the decade of the 1930's, the federal debt more than doubled but state and local debt in 1940 was only slightly more than in 1932. In contrast with the soaring

NET DEBT OF STATE AND LOCAL GOVERNMENTS
(In Millions of Dollars)

	STATE	LOCAL	TOTAL
1902	\$ 235	\$ 1,630	\$ 1,865
1912	346	3,476	3,822
1922	935	7,754	8,689
1932	2,374	15,216	17,590
1945	1,839	12,853	14,692

Source: U.S. Bureau of the Census, *Wealth, Public Debt and Taxation*, 1922; *Financial Statistics of State and Local Governments*, 1932; *Governmental Debt in the United States: 1945*

national debt, the amount of state and local debt declined approximately one sixth between 1940 and 1945. In this war period there was very little new borrowing by the states and local units, since capital improvements could not be undertaken because of the lack of available labor and materials. Furthermore, they could more easily retire debt because of increased revenue collections resulting from war-created prosperity. By the end of the war, only six per cent of all governmental debt in the United States consisted of state and local debt, whereas in 1932 it had constituted fifty per cent of the total.

LIMITATIONS ON PUBLIC BORROWING

Public borrowing is a highly useful fiscal device which, if handled properly, is a good servant but, if abused, public debt can become a harsh master. Borrowing may at times serve as a desirable supplement to taxation but, of course, is not a permanent substitute for it.

In order that public credit may be available when needed, certain fundamental rules should be observed. One of these is integrity on the part of the borrower. Governments have sometimes destroyed their credit, for a period of time, by repudiation or outright refusal to pay their debts. Others have impaired their credit by defaulting on their debts, that is, by failing to pay the interest or principal promptly when due. After a repudiation, or even a default, it may be years before a government can borrow funds again at reasonable rates.

Economic Limitations. As a general rule, a unit of government seeking to borrow is subject to economic limitations and must appeal primarily to the pecuniary motive and sell its securities at rates of interest and at prices determined by conditions in the capital investment market. The various economic forces that affect credit, both public and private, are reflected in the supply of and demand for investment funds and in the resulting interest rates and other terms and conditions of loans. The ability of a governmental unit to secure funds from voluntary lenders and the terms at which it can borrow depend upon, first, its own credit standing, and second, the general condition of the capital market at the time the loan is sought.

The competitive capital market is not always a sure guide as to the degree of soundness of public credit. At a time when the credit market is in a state of collapse, as during a severe financial panic, it might be difficult to float long-term bond issues in large amounts, even by political units with excellent credit ratings. On the other hand, there are times, such as during the depression of the 1930's, when public borrowing at low rates of interest is relatively easy because owners of capital are extremely timid of investing in private enterprises. Since other investment opportunities are less attractive because of greater risk of losses, there is an increased demand for government securities and this may cause them to sell at prices yielding abnormally low rates of return. This does not prove, however, that the financial condition of the borrowing unit is better than previously.

Federal Borrowing. Although economic forces affect the borrowing ability of nations, the credit of the United States government usually has been so excellent that expressions like "as good as U.S. government bonds" or "as sound as the credit of the nation" have been common. For a long time the expansion of the federal debt has not been limited by any lack of ability to borrow, but its extent has depended almost entirely on the policy followed by Congress and the Treasury. A maximum limit on the size of the federal debt is prescribed by Congress and the Treasury is authorized to borrow within this limit. The statutory limitation has been changed from time to time. As the debt rose during the depression and war years, the limit was extended to 300 billion dollars but this was reduced to 275 billions in 1946.

The national government has monetary and other powers which affect the market for its securities and the terms upon which it borrows. Congress can require the use of federal bonds as bank reserves, as was done for notes when national banks issued their own bank notes. It has provided that member banks can use their federal securities to increase their reserves at the Federal Reserve Banks and in other ways can make the purchase of such securities attractive to banks. Heavy purchases of U.S. securities by commercial banks and the Federal Reserve Banks were largely responsible for a great increase in bank credit expansion during the war, thus virtually resulting in "monetization of the debt."

Monetary and banking policies influence the terms upon which the government can borrow. The "easy money policy" sponsored by Federal Reserve authorities and encouraged by the Treasury probably was a major factor contributing to the low interest rates on federal securities issued during the past decade.

It has been the policy of the federal government to borrow from voluntary lenders. If for any reason this method should fail or prove to be unsatisfactory, the national government could introduce a system of compulsory loans. This might be accomplished in conjunction with the tax system. A portion of the excess profits tax in effect during the Second World War was in reality a forced loan since part of the sum paid by a corporation was refundable after the war. Similarly, a part of the income tax could be refundable, thus constituting a form of compulsory saving or forced loan, as occurred in Great Britain during the war.

State Borrowing. The forty-eight state governments have no powers over the monetary system, although they can make their bond issues legal investments for such financial institutions as savings banks, trust companies, and life insurance companies, and thereby affect somewhat their marketability. Most state constitutions permit the state to incur debt but require that proposals for the issuance of bonds must first be approved by a vote of the citizens. The states that decide to borrow usually have no difficulty in selling their bonds, but the interest rates necessary to attract investors are variable.

Local Borrowing. Borrowing by local governments is limited not only by their credit standing in the investment market but also by acts of state legislatures and sometimes by charters and by state constitutions. In many states, the amount that a local unit may borrow is limited to a certain percentage of the assessed valuation of the property located in it. It is usual to regulate the purposes for which local governments may borrow, the length of time for which securities may be issued, and methods intended to insure the repayment of debts when due.

There are good reasons for legislation to curb local borrowing, such as the imposition of statutory limits on the creation of debt. In the investment market, judgments concerning the credit standing of local governments in a state tend to be based on their general reputation. If there are defaults in a certain state they tend to injure the marketability of the securities of the other local units in that state, with the possible exception of large cities which are known on their own merits

in the investment market. Thus, if a state has no legislation to control excessive and unwise borrowing by its political subdivisions, a few of them could damage the credit standing of other more carefully administered local units.

A state government has an obligation to protect political subdivisions that use their credit wisely from the deleterious effects of the excesses of others. Likewise, a state has a moral obligation to protect investors in the securities of its local government units, particularly if the state has made such securities legal investments for savings banks, life insurance companies, and other similar financial institutions. Finally, the state government has an obligation, particularly when the borrowing by local officials is not subject to approval by the voters, to protect the taxpayers from the burden of the higher taxes that eventually would follow imprudent debt creation.

The lack of sufficient restrictions on borrowing by local units and the large local debts that were permitted to be incurred were largely responsible for the epidemic of defaults during the period 1931-1935. Early in 1934, more than two thousand local units in the United States were in default and over half of these were in seven states. By way of contrast, there were seven states in which there were no defaults on local government securities, and, generally, in these states a conservative policy had been followed with respect to local borrowing.

DEBT RETIREMENT

Once a debt has been incurred, the payment of interest becomes a fixed charge which continues inexorably year after year until the debt is finally extinguished. Charges for interest that are rather easily borne in years of prosperity may become extremely burdensome in time of adversity and even lead to defaults.

In addition to the amount necessary for all other governmental expenditures, a tax-supported debt requires the collection of taxes for interest payments. Still further taxes must be obtained for repayment of principal if the debt is to be paid off. If there is a surplus of revenues over expenditures and the debt is actually retired, then both interest and principal payments cease and taxes are no longer required for either. There is good reason, therefore, to desire to be free from debt.

Some public debts, however, have not been reduced materially over a long period of years, but have become larger and larger. Part of the present British national debt was incurred in waging the Napoleonic Wars more than a century ago. With relatively little reduction in the size of the debt between wars, each major war has forced the debt to a successively higher level. Consequently, a large portion of the taxes collected is required to pay only the interest on what has been an ever-growing perpetual debt.

The British "consols" are government bonds which have no maturity date. Repayment of the principal is not required and there can be no default as long as the interest is paid regularly. Such bonds maintain their

value and are attractive investments because they produce an income.

In the United States, although government bonds have fixed maturity dates, debts are not necessarily extinguished. When bonds become payable the holders may be paid with the proceeds from new bond issues, a process called refunding the debt. Even when maturing bonds are actually retired with revenues that have been collected, the size of the total debt outstanding may not be reduced and may even increase as the result of new borrowing. This often has been the case, particularly in many cities and other local units. Instead of constantly expanding the debt, it is wise to pay it in order to safeguard public credit. Government credit should be a reservoir of strength for use when needed. A policy of retiring debt helps to insure that borrowing capacity will be unimpaired.

Throughout the history of the nation, the traditional policy of the federal government has been rapid retirement of the national debt after each war. Several times the country was virtually free from federal debt. The present national debt is so enormous, however, that even if it were reduced at an average rate of 2.5 billion dollars a year, more than a century would be required to liquidate it. It probably will be difficult to raise sufficient taxes in excess of expenditures to produce the budget surpluses necessary for even a relatively slow rate of retirement. Nevertheless, this is the method by which the burden can be lightened eventually, since by reducing the debt the annual interest charge becomes smaller.

C H A P T E R X V I I I

Principles of Public Credit

PURPOSES OF PUBLIC BORROWING

BORROWING by the federal government has been primarily to meet emergencies, particularly wars. Although previous wars were financed largely by borrowing, these earlier war debts now appear small in comparison with the huge debt incurred in the Second World War. With the exception of a relatively small amount borrowed to finance the construction of the Panama Canal, the capital improvements undertaken by the federal government before 1930 were financed out of current revenues. The emergency occasioning the large increase in federal borrowing during the 1930's was not a war, however, but a period of widespread and serious depression. Most of the borrowing was done to provide funds for the relief of unemployment and to finance a large public works program, consisting of the construction of water-power projects, highways, public buildings, and various other capital improvements. The

federal works program was undertaken primarily to "prime the pump" — to stimulate business, to increase employment and purchasing power and, at the same time, to initiate projects of permanent national improvement.

Most of the state and local borrowing has been for the construction of capital improvements. During the early 1930's, however, some of the states and municipalities borrowed heavily for unemployment relief. A large part of the debt of the state governments has been incurred for highway construction, while local debts have been incurred chiefly for schools and other public buildings, capital improvements for health and sanitation, and roads and streets.

Public credit may be used as a cushion to soften the shock of the fluctuations in economic activity arising from the business cycle. If borrowing is possible at favorable rates when needed, public credit can serve as a bulwark of defense against the fiscal difficulties that are associated with serious depressions. Many of the state and local governments borrowed so much during the era of prosperity in the 1920's that the subsequent financial breakdown found them saddled with large debts. Consequently, as revenues rapidly declined, they found it increasingly difficult to meet the heavy fixed charges for debt service. In contrast, a large part of the federal debt was retired in the decade following the First World War and, during the difficult times of the 1930's, the federal credit was an "ark of refuge" supplying necessary funds for unemployment relief that state and local governments often were unable to provide.

*BORROWING VERSUS THE PAY-AS-YOU-GO
POLICY*

It is frequently maintained that instead of borrowing a government should pay for its capital improvements from current revenues, or adhere to what is popularly known as the "pay-as-you-go" policy. It is contended that such a policy is cheaper in the long run because it avoids the added charge for interest. This additional outlay for interest may be so large as to double the cost of an improvement. The total amount paid in interest on a twenty-five-year 4 per cent bond is equal to the par value of the bond.

On the other hand, it must be remembered that the citizens have the use of the improvements while they are paying for it. The benefits derived from it, if the project is a desirable and wisely executed one, should be greater than, or at least offset, the interest paid. The value of the benefits from the use of the public improvement earlier than would have occurred if it had been financed out of current revenue must be taken into consideration in calculations of cost. The cost of "doing without" the improvement possibly might prove to be greater than the interest that would have to be paid on the bonds issued for the purpose of making the improvement. Thus the continued use of a firetrap school building might result in a fire and loss of life that would far outweigh as a social cost the interest on bonds for a safer structure.

Many states have borrowed heavily to construct highways, but a few states have managed to construct

good highway systems by financing them out of current revenues on a pay-as-you-go basis. The improvement of a highway system does not need to be done all at one time but can be more or less continuous in character. Several miles of highways can be improved each year from current revenues, thus avoiding a large amount of debt and the interest upon it. Ordinarily, it would be uneconomical to build certain capital improvements, such as a school building or a public utility plant, in a piecemeal fashion. In the construction of a highway system, on the other hand, the roads that are used most can be improved first and the remainder constructed as current revenues become available.

Another argument in favor of the pay-as-you-go policy of financing capital improvements is that borrowing often leads to extravagance and wasteful expenditures. There is a temptation for elected officials to borrow to finance improvements desired by the people and leave to their successors in office the worry of collecting taxes to pay the public debts thus created. Furthermore, even when bond issues must be approved by a vote of the people, they are often approved because so many persons wish to stimulate employment and have the improvement for present use, and to leave to posterity the problem of paying for it. That the use of public credit is more conducive to extravagance than paying for improvements out of current taxes must be admitted, but this does not mean that borrowing is unwise under all circumstances. Public borrowing is a beneficial and legitimate device in government finance provided it is done intelligently. Like many other es-

sential tools, public borrowing easily can be abused, but to offer this as an excuse for dispensing with it altogether is like saying that hammers should be abolished because they sometimes are used to commit homicide.

*WHEN IS PUBLIC BORROWING
JUSTIFIABLE?*

When is it proper for a political unit to borrow? How much is it permissible to borrow in relation to the amount raised by taxation? The answers to these important practical questions necessarily depend on human judgment and are subject to differences of opinion. However, certain generalizations may be laid down.

Fiscal Emergencies. It is sometimes a wise policy to use public credit to meet deficits arising in a fiscal emergency. It might be proposed that when facing a deficit a government, instead of borrowing, should either increase its current revenues or reduce its expenditures, or both. This is a proper solution, if it can be accomplished without too great hardship, but if the emergency is a serious one the matter is not so simple. Revenues usually cannot be increased quickly because it requires time to enact new tax measures and, after the laws are passed, it requires further time before the tax produces revenue. In a war emergency the nation must greatly expand expenditures for defense and war activities. Borrowing is essential to provide part of the necessary funds quickly and in sufficient amounts. In a war crisis, public borrowing as well as heavy taxation is required.

In a fiscal emergency resulting from a major economic depression, it is difficult to increase the total amount of revenue collected. An increase in the rates of some taxes may not raise their yield, but merely prevent the revenue from falling as much as it otherwise would. Certain taxes, particularly sales and commodity taxes, can be made sufficiently productive to raise more revenue even in a serious depression. It may be socially undesirable, however, to increase materially the aggregate tax load on the people when there is a general stagnation of economic activity and less income out of which to pay taxes.

The reduction in the total volume of expenditures at such times may prove to be equally difficult and inexpedient, although it is highly desirable to reduce as far as possible any waste and extravagance in expenditures. For that matter, the latter is the policy of wise husbandry at any time, but in a period of stress, when extraordinary expenditures for emergency purposes are necessary, not only should any waste be squeezed out, but even some desirable, although unessential, services might be curtailed for the time being. The great difficulty in the curtailment of such services is to obtain agreement on which ones are not essential. In the 1930-1933 depression, the expenditures for education were often the ones that in fact were reduced most. Funds for libraries, health and welfare services, playgrounds, and parks also were frequently diminished greatly. "Cutting the expenditures of government to the bone" may prove to be a most uneconomic method of meeting a deficit. Many of the government services are even

more essential for the welfare of the community during a serious depression than at other times. To close the schools, allow highways to disintegrate, and public buildings to crumble for lack of necessary repairs, may cost more in the long run, in money and in human lives, than the interest charges and extra taxes required by a policy of borrowing to prevent such results.

Furthermore, in times of financial emergency occasioned by a serious depression, the government is called upon to provide funds to relieve unemployment and economic distress. Extraordinary expenditures to meet such problems cause aggregate expenditures to be larger than in normal times, even when costs for ordinary services are reasonably curtailed. In a financial emergency of the magnitude of a major war or a great depression, it would be unsound, if not impossible, to finance all federal expenditures out of current tax revenues in order to avoid a deficit and to "balance the budget." On the other hand, the plea of "extraordinary conditions" and "emergency" should not be allowed to serve as an easy excuse for public borrowing and spending in excess of current revenues, when a deficit can be avoided by reasonable increase in taxation and wise restraint on spending.

It is frequently proposed that governments should build up cash surpluses or reserves with which to meet financial emergencies, in preference to borrowing to cover deficits. It is contended that this would save the interest charges and result in less extravagant expenditures. The accumulation of a reserve has definite ad-

vantages in this respect, but it has the practical disadvantages in a democracy that the reserve either will not be accumulated because of unwillingness to pay the necessary taxes or, if it is actually built up, that it will be dissipated and not be available when a real emergency arises. When "idle" money is lying about it offers a continuous temptation to spending, and there are always projects or services that certain groups wish to have extended. The presence of surplus funds would furnish these groups with a plausible argument that the additional expenditures, for perhaps laudable purposes, can be afforded by the government.

There are also practical difficulties connected with the administration of the reserve. If it is not invested, the income that it could be earning is lost, and this would be uneconomic. On the other hand, if it is invested, it may be difficult to sell the securities in the reserve fund without incurring loss when the emergency arises and cash is required.

There are some conditions under which sound economic considerations support the accumulation of a reserve fund for a particular purpose. It is highly desirable that a fund should be accumulated by a government from which pensions may be paid to its employees when they become superannuated or disabled. Such a fund can be regulated according to actuarial principles such as are applied in life insurance, so that a reserve can be accumulated against the contingent liabilities. Another example where the accumulation of a reserve of some type is justifiable is in connection with the ad-

ministration of social security legislation providing for old-age and unemployment benefits.¹

Tax-Anticipation Borrowing. It is a prevalent practice of some governments to borrow on short-term notes in anticipation of the collection of taxes. This is unlike borrowing to meet a deficit arising from an emergency situation, because it is a regularly recurring practice. Tax-anticipation borrowing arises from the fact that expenditures in certain periods of the year are much larger than tax collections. As a result, the government pays interest on borrowed funds for a few months in order to meet pay rolls, debt service, and other expenditures until the revenue from taxes is actually on hand, at which time these short-term loans are normally retired.

Borrowing in anticipation of tax receipts has a proper place in government financing but, in the case of local governments particularly, it is frequently used more than is really necessary, with a consequent large floating debt and added cost for interest. Tax-anticipation borrowing is a useful fiscal practice but need not be resorted to extensively if the tax and budget calendars are arranged so that better time correspondence between revenues and expenditures is obtained. The payment of the property tax or an income tax in installments instead of once a year helps to reduce the amount of tax-anticipation borrowing.

Borrowing for Current Expenses. It is usually considered a fundamental principle of sound government

¹ For further discussion of the question of reserves in connection with the social security program, see McCabe, D. A., and Lester, R. A., *Labor and Social Organization*.

finance that borrowing should not be utilized to meet current expenses, but should be used only for financial emergencies and to finance the construction of public improvements. It is well to emphasize this proposition because it is too often a temptation to borrow to avoid raising taxes. In the past, one city once sold fifty-year bonds to buy brooms for the street-cleaning department, and others have paid salaries and other current expenses out of borrowed funds. Ordinarily such use of public credit must be condemned. But in certain circumstances of an emergency character it may be wise policy to borrow for current expenditures, if necessary to maintain essential services. For example, in preference to closing the schools, the maintenance of which is a current expense, it may be better to borrow to pay teachers' salaries and other current operating costs.

Borrowing for Capital Improvements. Under certain conditions, it is justifiable for a government to borrow in order to finance the cost of capital improvements. In many cases the construction of a public improvement out of current revenue would entail so heavy a rise in taxes that it would be better to spread the cost over a period of years. With such an arrangement the people can enjoy the use of the improvement while paying for it. This does not mean, however, that all capital improvements should be financed by borrowing. For example, a large city is constructing school buildings more or less continuously, whereas a small town may construct one only once in a generation. There is more justification, therefore, for a small town than for a large city to finance its school construc-

tion program by bond issues. The relative cost of an improvement is an important factor in determining whether borrowing is justified.

When a government borrows for the purpose of spreading over a period of years the cost of capital improvements, the length of time that the bonds will remain outstanding should not exceed the probable life of the improvement. Otherwise, the people would be paying taxes for debt service on the bonds after the improvement had ceased to be useful to them.

Publicly Owned Enterprises. A government may justifiably borrow for self-supporting enterprises, assuming of course that the enterprises undertaken will have competent management, that there is a sufficient need for them, and that government ownership is in the public interest. Under these conditions it is as proper for a government to issue bonds, if necessary, to secure capital for the construction of a water system, an electric plant, or some other self-supporting enterprise, as it would be for a private corporation to do the same thing. A special type of security known as the revenue bond is often used for this purpose. The debt service on revenue bonds is paid out of earnings of the public enterprise for which they were issued.

ECONOMIC EFFECTS OF PUBLIC BORROWING

In the public economy, as in private finance, the use of credit has various economic effects, and the nature of these effects depends upon the conditions and circumstances attending its utilization. The economic

effects of creating public debts depends upon who buys the bonds, how they are purchased, the purposes for which the purchasing power thus obtained by government is spent, the methods of spending it, and what would have been done with the money if it had not been spent by government. The effects of debt retirement depend on how the additional revenue required is raised, who contributes this revenue, what they would have done with the money if it had not been taken by the government, who owns the bonds, and what these owners do with the purchasing power returned to them when the bonds are redeemed.

As a consequence of the changes in the use of purchasing power, resulting from public borrowing and debt retirement, there are different effects on the prices of different goods and services. The use of public credit may affect the price level, interest rates, production, consumption, and the distribution of wealth and income.

Effects on the Price Level. When a public loan is floated and the bonds are taken by investors who buy them with accumulated savings, there is a transfer of purchasing power from the lenders to the government, just as the payment of taxes is a transfer of purchasing power from the taxpayers. As the government spends the money in a different manner than it otherwise would be spent, the prices of particular goods and services can be affected by such transfers of purchasing power. The general price level, however, is not likely to be raised by either the payment of taxes or the purchase of bonds out of savings. Neither one is inflation-

ary, since total purchasing power is not increased but is simply diverted to the government from the taxpayers or the bondholders respectively.

When government financing adds materially to the supply of money and credit, however, as by the issuance of paper money or when the sale of bonds in large quantities results in the creation of additional bank credit, it tends to raise the general price level. This results in the creation of additional purchasing power rather than merely its transfer from the hands of investors to the government.

A change in the general price level, whether the result of public borrowing or some other cause, has important effects on creditors, debtors, and other economic groups that need not be discussed here. The evil effects of pronounced changes in the value of money have already been discussed in another part of this volume.²

Effects on Production. Public borrowing, by increasing the amount of funds available to government for expenditure, can affect the prices of the commodities upon which the money is spent by increasing the demand for them, and thus stimulate the production of these commodities. At the same time, this may cause purchasing power to be diverted from other commodities and thus cause the demand for them, their prices, and the amount produced to be less. For example, war borrowing provides funds, the spending of which increases the production of munitions and other war supplies, and the diversion of capital and labor to the

² Cf. above, Chapter I.

industries producing such products tends to diminish the production of other types of goods and services.

During the Second World War, production of many types of goods for civilian use was curtailed. Construction of civilian housing and the manufacture of automobiles, refrigerators, and various other durable consumer goods practically stopped. Nevertheless, the output of war matériel was so large that *total* production, including both military and civilian goods, was greatly above the pre-war level. Government war spending, in large part from borrowed money, was primarily responsible for this increase.

The repayment of debt also can affect production. The taxes raised to pay off the debt reduce the amount that the taxpayers have to spend or to invest in business enterprises, but a corresponding amount is handed over to the bondholders. The effect on production of debt repayment, then, depends upon both what the taxpayers would have done with the money paid in taxes, and what the bondholders do with the funds returned to them.

Effects on Distribution of Wealth and Income. When an investor exchanges his savings for government securities the amount of his capital is the same and the process of public borrowing thus far has not changed the distribution of wealth. The spending of the borrowed funds by the government, however, may affect the distribution of income. For example, when funds obtained from the sale of bonds are spent for a bonus for war veterans, subsidies to farmers, or relief to the aged, the incomes of the recipients are increased.

The effects of debt service payments upon the distribution of wealth and income depend upon who owns the securities and also upon how the taxes are raised to pay the interest or to retire the debt. If regressive taxes provide the necessary funds, it is likely to accentuate the existing inequality in the distribution of wealth, particularly if the bonds are owned for the most part by the higher income groups. On the other hand, if progressive income and inheritance taxes supply the money, the higher income groups in effect pay themselves. If the funds borrowed by government were used for purposes that benefit primarily those with low incomes, the process as a whole has a tendency toward equalizing the distribution of wealth, much the same as if the proceeds of the progressive taxes were spent directly for these purposes.

It will be difficult to determine the ultimate effects on the distribution of wealth and income of interest payments and any retirement of principal of the present large federal debt. As mentioned in the preceding chapter, only 23 per cent of the federal debt outstanding in June, 1946, was owned by individuals. As to this portion of the debt, it is likely that a relatively small part will continue to be held by persons in the low income groups. Although wage earners bought bonds during the war, a large part of such bonds have been "cashed" before maturity. Since about three quarters of the debt is held by government agencies and trust funds, banks, insurance companies, and other corporations and associations, it is evident that most of the payments for interest and principal will be received by organizations and

probably commingled with other funds. Consequently, it would be difficult to trace such payments to the individuals who become the ultimate beneficiaries and to compare the amount received by persons in each income group with the amount of taxes they contribute on account of the debt.

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